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Toronto Transit Commission

LONG RANGE PLAN

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TORONTO TRANSIT COMMISSION

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April 19, 1983

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URBAN DOCUMENTATION CENTRE
RESEARCH UNIT FOR URBAN STUDIES
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Dear Sir:

This letter will serve to present to the Commission the Long Range Plan, which has been prepared by the Administration, in consultation with Members of the Commission, the public and consultants, over a period of two years. I would like to take this opportunity to inform the Commission of the effort devoted by the staff in the preparation of this document.

A number of very extensive background papers were developed for many of the chapters, which contain a great depth of knowledge and which, when combined with this document, will provide direction for future actions of the Commission.

This is the first Long Range Plan of this nature to be developed by the Commission, and periodic updating is planned to keep the document current and to incorporate new technology.

Yours truly,

A.H. SAVAGE
Chief General Manager

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TORONTO TRANSIT COMMISSION

LONG RANGE PLAN

ACKNOWLEDGEMENT

This document is a consensus statement of the policy of all TTC management and would not have been possible without the significant and continuous contributions of staff and management in all TTC departments. The time involved in this participation and the input provided is gratefully acknowledged.

The actual preparation of the document and co-ordination of the studies, analysis and review leading up to it was carried out under the direction of Mr. Dennis Callan, Director of Corporate Planning with the invaluable assistance of Messrs. John Davies and David Ferguson, Corporate Planning policy analysts.

EXECUTIVE SUMMARY

INTRODUCTION

If the Toronto Transit Commission is to be prepared for the new challenges and demands it will face over the next decade, it is essential that it take a long range view of the possible futures and formulate policies and strategies to deal with the emerging issues.

The prime objective of this first TTC Long Range Plan Report is to develop a set of broad policy directives to guide the actions of TTC management and staff over the next five to ten year period based on an assessment of the trends in internal and external factors up to 1991.

In formulating this first plan, it was extremely important that all senior management fully understood and were fully involved in the process. Considerable time was spent by the management group reviewing trends in external factors, assessing the major issues and arriving at a consensus on the broad policy directions the TTC should be following. Once the policy base has been established, it is intended that this document will be updated as required on an annual basis with the inclusion in subsequent issues of a three to five year action plan specifying annual achievement targets related to the broader policy guidelines.

THE LONG TERM OUTLOOK

Over the next decade and beyond, the TTC will experience ever-increasing demands on its resources. Many of the demands felt over the last decade will intensify and new requirements, resulting from changing external factors, will appear. Some of the major trends which will have a

significant influence on medium and long term directions are outlined below.

Population Growth

Population within Metro will remain relatively stable and is expected to increase by only approximately 50,000 with the main growth areas to be in Scarborough, the North Yonge Corridor and the Waterfront Area. Population growth in the regions surrounding Metro is estimated to be about 375,000 by 1991, with most of this growth occurring in Peel to the west and York to the north.

Employment Growth

Employment growth within Metro is forecast to be between 100,000 and 175,000 new jobs over the next decade. The single largest growth area will be in the Central Area (including the Waterfront) with significant growth expected at the North York Civic Centre, the Scarborough Town Centre, the Don Mills/Don Valley Corridor, the Tapscott area of Scarborough, and the Highway 27 Corridor in Etobicoke. Employment growth in the regions surrounding Metro is expected to exceed 200,000 with approximately 85,000 of that increase in areas immediately adjacent to Metro, notably the Airport Industrial Area in Peel and the Highway 400/Keele and North Don Mills Corridors in York.

Social and Economic Trends

Stable or slightly declining real wages will occur at least over the first half of the 1980's, placing increased pressure on the transit system by those facing a household budget squeeze.

Increased female labour force participation rates and an overall increase in the average age of the Metro population will result in an increase in the percentage of the traditional transit dependent working women and senior citizen population groups.

The mobility demands of Metro residents, especially in the suburbs, will increase as financially constrained residents focus more of their leisure and recreational activity within Metro.

Energy

While petroleum price increases will occur, they will not escalate at the tremendous rates experienced since 1974. Gasoline price increases are expected to moderate after 1983, although they will continue above the rate of inflation. Supply problems are not anticipated to the end of the decade. As a result, ridership increases due solely to gasoline price increases are expected to be relatively modest.

Transit Technology Developments

Few major innovations or breakthroughs in transit technology, other than ICTS, are expected during the decade. Some relatively new (to North America) technology and hardware is already being tested by the TTC and could provide some significant productivity improvement opportunities in the coming years. Examples include articulated vehicles, automatic vehicle monitoring systems, new fare collection systems, and signal pre-emptive technology.

Automobile and Road System Use

Both automobile and transit traffic are expected to increase significantly over the decade through all parts of

Metro. Much of this increase will come from commuters outside Metro, with increasing road congestion expected across the west Metro boundary.

With few major road improvements planned or expected, worsening road congestion will result in a considerable decline in surface transit speeds, leading to increased transit capital and operating costs.

A Changing Labour Force

While the TTC is not expected to have any difficulty in attracting and retaining employees, the composition of the TTC work force will change, with an increasing proportion of more highly skilled and educated employees.

Crime and Vandalism

Criminal occurrences on the TTC are relatively few and further growth is expected to be minimal. However, since females, seniors, and ethnic minorities are expected to represent an increasing portion of TTC ridership, the perception held by these groups of the safety of the transit system will become increasingly important.

Environmental Factors

Environmental Assessment Act legislation, which will apply to all major capital construction projects, will significantly extend the approval and implementation time and cost of construction of these projects.

Government Policy and Transit Financing

While both Metro and the Province are expected to continue their strong political support for public transit, the availability of increased government funding in this era of financial restraint may be restricted.

Ridership Growth

As a result of some of the factors cited, annual TTC ridership is expected to grow from its present level of approximately 400 million rides to between 450 and 500 million rides by 1991.

STRATEGIC THEME FOR THE 1980's

The basic pressure on the TTC over the next decade will be to provide increased levels of conventional and new service:

- peak period ridership is expected to increase, requiring service improvements;
- inter-regional peak hour demands, a large proportion of which the TTC will be expected to serve, will increase;
- off-peak ridership, particularly in the suburbs and oriented more to local activity centres rather than to the subway, will increase;
- the Province, Metro and the area municipalities will increasingly wish to exploit the "non-transportation" benefits of transit in meeting economic development, land use and social objectives.

All of these requirements, coupled with the general effects of inflation, will place upward pressures on the costs of TTC operations, at a time when financial austerity and restraint are expected to be prime objectives of all levels of government. The prime objective of the TTC is to meet the transportation service needs of its patrons.

In order to meet these various objectives, the governing TTC strategic theme for addressing the needs of the 1980's will be to:

> "Maintain and improve the present quality of service and provide increased levels of service, including rapid transit where appropriate, to meet the ridership and public policy needs, coupled with major efforts to reduce per unit operating costs and minimize subsidy requirements."

MAJOR POLICY ISSUES AND RECOMMENDATIONS

As a result of the analysis and discussion of the many external and internal factors which will affect the TTC over the next decade and the expected ridership demands resulting from those factors, several major issues emerge with important implications for TTC policy and operations. Detailed recommendations and discussion are included in the main body of the report but these issues can be summarized as follows.

1. Cost Effective Accommodation of Ridership Growth

In pursuit of the goal of accommodating an increasing ridership demand, while at the same time reducing the unit costs of operating the system, the TTC must aggressively pursue all opportunities for productivity improvements.

While the TTC is already one of, if not the, most efficient major transit operators in North America, there are strategies which can be pursued to improve the present ratio of costs per revenue passenger. The term productivity in this case does not imply simply making the staff work harder. What it does imply is the pursuit of measures which allow the more efficient use of currently available resources and technology.

Examples of these measures include:

- implementation of exclusive transit lanes and other transit priority measures;
- the use of higher capacity (articulated) surface vehicles;
- system-wide implementation of the Communications and Information System;
- implementation of advanced fare collection systems; and,
- variable work hours and other demand management strategies.

2. Social Objectives/Transportation Objectives

The TTC is in the business of providing a transportation service while at the same time accommodating various social objectives. In essence, establishment of the "users' fare share" revenue/cost ratio at 68% determined the relative proportion of "transportation" and "social" service provided by transit.

There have been and will continue to be numerous proposals to maintain or reduce fare levels or provide other concession fares. Social goals should be kept distinct from transportation requirements so that the cost implications of both policy and service initiatives can be accurately identified. It is important, therefore, that funding of "social" transit services be provided through earmarked subsidies from, for instance, a social services budget rather than a transportation budget.

This does not imply that social objectives should not be served but rather that, when new social initiatives are being pursued through the transit system, they be debated and identified in their proper context.

With respect to the provision of parallel transportation service for the disabled, it is recommended that the current operation of Wheel-Trans service by outside operators be maintained, with reservations, scheduling and dispatching functions assumed by the TTC.

3. Rapid Transit

Near Term

With the present and growing congestion on the Yonge Subway line south of Bloor and the long lead time required for implementation of new rapid transit facilities, it is important that the downtown relief line (including consideration of the Waterfront Extension), as recommended in the recent Metro/TTC Rapid Transit Study, be given early approval.

Even with early approval, it will be necessary to provide a surface transit relief service in the near future so that rider demands can continue to be accommodated comfortably and safely.

In light of the recent Provincial announcement concerning a new GO Transit commuter line across the top of Metro in a corridor north of Highway 401, the recommendation for a Sheppard Avenue rapid transit line from Yonge Street to the Scarborough Town Centre will have to be reviewed.

Long Term

The long term circumferential rapid transit system concept (not necessarily the alignments indicated) as presented on the following plan, should be given approval in principle to provide a long range systems context for the required nearer term rapid transit decisions.

4. Integration and Co-ordination of Inter-Regional Travel

Inter-regional commuter travel is expected to increase substantially over the next decade and the respective roles of the TTC, other municipal transit operators and GO Transit will require re-evaluation to resolve questions of service and fare integration and financial responsibility. Consequently, it is recommended that:

- The TTC approach the Ministry of Transportation and Communications, GO Transit and municipal transit operators in the surrounding regions regarding the establishment of an informal forum for discussion and resolution of inter-regional policy and operational issues.

- As a longer term arrangement, a formal body, such as the European "Transit Union", be formed for the purpose of co-ordination and integration of all inter-regional transit services in the Toronto area.

5. Human Resources

The TTC's labour force is its most important resource both in terms of costs and operational effectiveness and consequently represents an area which has potentially important problems and opportunities. As the composition of the work force changes, with more highly educated and specially skilled employees, the TTC must endeavour to build on its existing strong human resources base through:

- assessment of ways of improving employee satisfaction as a means to improve productivity and performance; and,

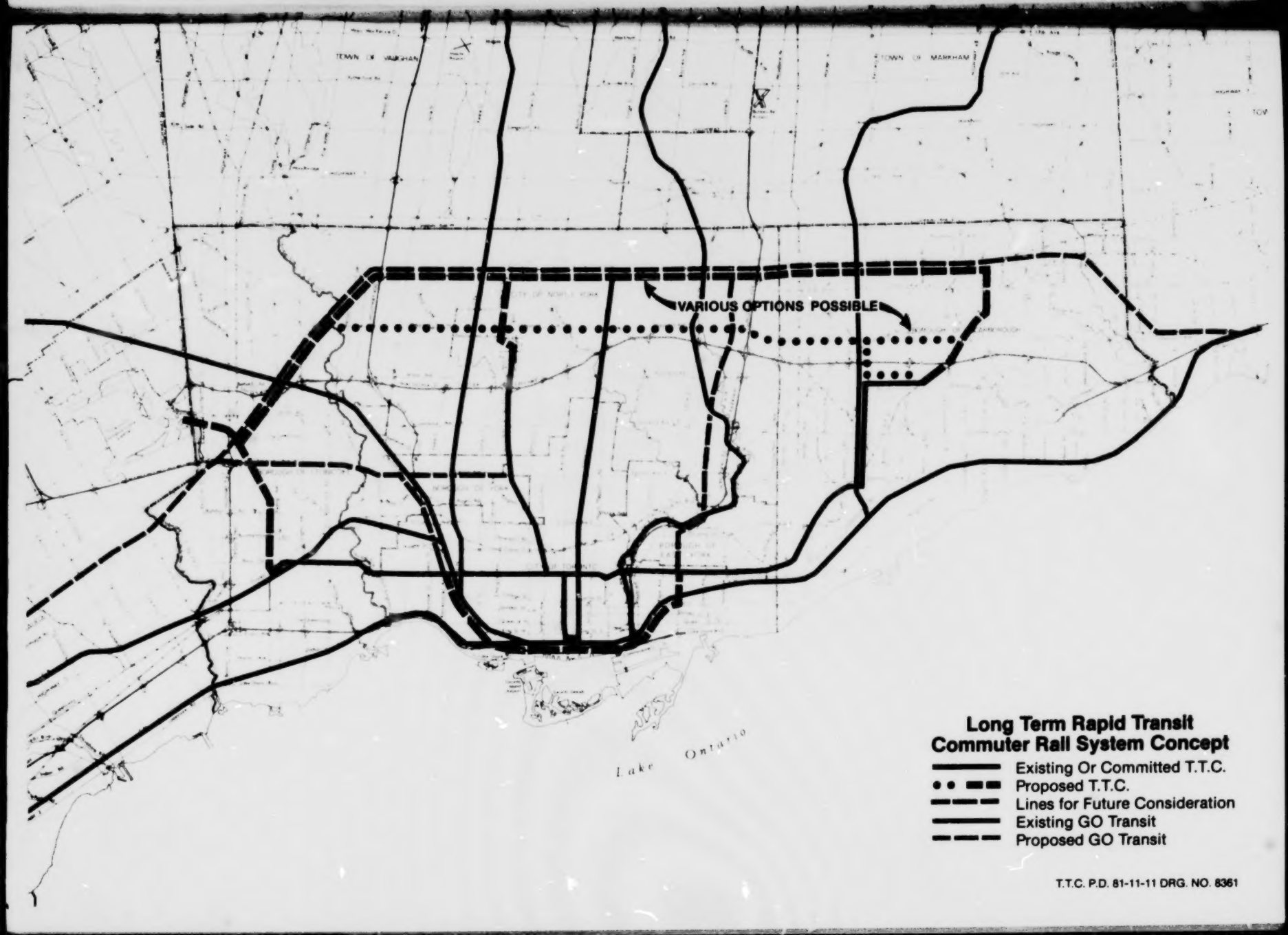
- adoption of a systematic formalized approach to employee counselling and development, manpower training, management development and succession.

6. Safety and Security

While crime and vandalism are not expected to be a major problem for the TTC over the coming years, an adverse perception of safety by certain rider groups, notably seniors, women and ethnic minorities could affect ridership. Consequently, the TTC should continue to place a high priority on transit safety and security throughout the Commission. Specific measures include:

- development of a more comprehensive data collection process on the nature and perception of potential safety problems;

- development and maintenance of effective rider communication and education programs;


VARIOUS OPTIONS POSSIBLE
Lake Ontario
Long Term Rapid Transit
Commuter Rail System Concept
Existing Or Committed T.T.C.
Proposed T.T.C.
Lines for Future Consideration
Existing GO Transit
Proposed GO Transit
T.T.C. P.D. 81-11-11 DRG. NO. 8361

- continuation and improvement of employee education in security- related matters such as crisis containment and race relations;

- increased management support to uniformed and "visible" TTC employees who are required to enforce TTC operating policy.

7. Contingency Planning

Recommended policies and actions developed in the Long Range Plan are based on an assumed "medium" ridership forecast of 450 million in 1991. However, the range of factors affecting ridership and the inherent uncertainty in forecasting ridership indicates the need for contingency planning. To this end, it is recommended that:

- the TTC continue the current program of updating 5-year ridership forecasts on an annual basis to account for changes in factors affecting ridership and to identify necessary shifts in strategy to respond adequately to changing conditions.

Similarly, while an energy shortfall situation appears unlikely at this time, monitoring of the historically volatile energy sector should be maintained.

8. The Role of Management

The TTC operating environment is expected to become increasingly complex over the next decade, with greater competition for scarce financial resources. To meet its prime objective of accommodating and encouraging ridership growth, TTC management should:

- emphasize and develop its current technical expertise through rationalization and expansion of its information gathering and analysis capabilities, selective hiring and development of suitably qualified staff and acquisition of appropriate technical analysis tools; and,

- develop its role as a transit advocate in dealing with political bodies, technical agencies and the public to ensure that the needs and benefits of transit are well understood before transit-related decisions are made.

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1.0 INTRODUCTION

1.1 Background

Substantial changes have taken place with respect to the nature and role of public transportation in Metropolitan Toronto over the past decade. The system has expanded further into the suburbs. Ridership has climbed from less than 300 million per year in 1972 to almost 400 million estimated for 1982. TTC operations are no longer financially self-sustaining from the farebox, but are very much dependent on subsidies from both Metropolitan Toronto and the Province of Ontario. Along with these subsidies have come demands to use the transit system for social, land use and economic development objectives as well as for the more traditional transportation objectives.

These changes and other external influences affecting the TTC will continue to evolve and new factors will take on increased significance during the 1980's. If the Toronto Transit Commission is to be prepared for the new challenges and demands it will be faced with in the coming years, it is essential that it take a long-range view of the possible futures and develop policies and strategies to deal with the emerging issues.

1.2 Objectives of the Report

The prime objective of this first TTC Long Range Plan Report is to develop a set of broad policy guidelines to direct the actions of TTC management and staff over the next 5 to 10 year period, based on an assessment of the trends and emerging issues up to 1991. It is intended that these policy guidelines will form the basis of continuing project and program studies designed to develop specific action plans to

meet the broad policy objectives. The policies and programs developed will be reviewed on an annual basis and updated as required to reflect any substantial change in external factors.

1.3 Approach

Background Studies

In order to assess the potential changes in and impacts of various factors on the TTC over the next 10 years, 13 individual background studies were undertaken in 1981:

- Social Trends
- Energy
- Spatial Patterns
- Political Priorities
- Technology
- Financing
- Safety and Security
- Human Resources
- The Disabled
- Neighbourhood Impacts
- Role of the Road System
- Complementary Plans and Policies
- Marketing

These studies were conducted under the direction of staff from various TTC departments, with five of the studies completed by in-house staff and the other eight carried out by outside consulting firms. The members of each individual study task team and the consultant firm, if applicable, are identified in Exhibit 1.

Exhibit 1

LONG RANGE PLAN BACKGROUND STUDIES

Background Studies	Project Manager/ Responsibility	Task Force Members/Advisory Group Member	Consultants
Social Trends	J. Davies	J. Shortreed M. Novick J. Barnes, Planning N. MacMullen, M&CR	Peter Barnard Assoc.
Energy	D. Ferguson	R. Soberman J. Armour, Materials D. Cowan, Equipment F. Ahlin, Operations Research	N/A
Spatial Patterns	D. Ferguson	E. Comay B. Hutchinson W. Frost, Executive M. George, Planning	John Bousfield Assoc.
Political Priorities	D. Phillips	E. Comay D. Callan, Planning W. Frost, Executive	N/A
Technology	I. Hendry	J. Shortreed R. Corley, Equipment D. Ferguson, Planning D. Irwin, Operations Research	IBI Group
Financing	T. Hancock	R. Rice J. Davies, Planning P. Forde, Treasury M. Rubenstein, Treasury S. Unger, Treasury	N/A
Safety and Security	F. Bostock	M. Novick J. Davies, Planning R. Smith, Trans. T. Whibbs, Plant	The Research Group

Exhibit 1 (continued)

LONG RANGE PLAN BACKGROUND STUDIES

Background Studies	Project Manager/ Responsibility	Task Force Members/Advisory Group Member	Consultants
Human Resources	E. Shaw	M. Novick B. Betzner, Personnel J. Davies, Planning R. Strickland, Transportation G. Webster, Equip.	Thomas Owen & Assoc./ W. Madigan Management Consultants
The Disabled	G. Brolley	R. Soberman F. Ahlin, Operations Research J. Davies, Planning P. Meacock, Equip. F. Yates, Plant	N/A
Neighbourhood Impacts	J. Barnes	E. Comay J. Davies, Planning W. Hayward, M&CR A. Hunt, E&C D. Riddell, Executive G. Webster, Equipment	N/A
Role of the Road System	R.M. Topp	B. Hutchinson B. Drew, M&CR D. Ferguson, Planning J. Gordon, Trans. P. Wenning, Planning	Jorgenson Assoc.
Review of Complementary Plans and Policies (Organizational Structure)	D. Callan	R. Rice	IBI Assoc. & Comay Planning Consultants
Marketing	A. Gallo	M. Novick J. Shortreed J. Davies, Planning B. Drew, M&CR	Brian Helm Assoc.

External Advisors

In addition to the comments, suggestions, and input from TTC management and staff, a range of outside expertise was also called upon to help structure the elements of the plan and to review the trends and issues emerging from the background studies.

This external advisory team consisted of:

Prof. Eli Comay - York University (former Metro Planning Commissioner)

Prof. Richard Soberman - Director of the York/University of Toronto Joint Program in Transportation

Mr. Ron Rice - Manager, Strategic Planning, Transportation Department, Greater Vancouver Regional District (formerly Professor - Department of Civil Engineering, University of Toronto)

Prof. Bruce Hutchinson - Department of Civil Engineering, University of Waterloo

Prof. John Shortreed - Department of Civil Engineering, University of Waterloo

Dean Marvyn Novick - Community Services, Ryerson Polytechnical Institute (formerly Senior Program Director - Social Planning Council of Metropolitan Toronto)

Assessment of Major Issues

The comments, suggestions and recommendations from all 13 background studies were assessed and reviewed by a four member senior TTC management team (Messrs. Savage, Berney, Lawrence and Pill) in order to identify those particularly significant issues which needed to be identified and addressed in the TTC Long Range Plan.

In assessing the background studies, it was apparent, and indeed unavoidable, that there was some overlap of issue areas from different reports and, in fact, some conflicting opinions expressed. The major background factors affecting the long term TTC outlook and the issues arising therefrom, as reported in Sections 3.0 and 5.0 respectively, are a distillation of the information in the background reports. Not all issues or, in fact, specific information from any individual study is necessarily included in this report but all background reports were used in stimulating discussion and molding a consensus on the major issues to be faced by the TTC in the 1980's.

2.0 TRANSIT IN METRO

2.1 Historical Review

Emergence of Capital Subsidies

Prior to 1959, the TTC was financially self-sufficient in all capital and operations[1], although by the 1950's it was no longer able to generate sufficient funds for subway construction as it had done for the Yonge Street subway.

The 1950's marked the emergence of an era of social change. Increased affluence, cheap gasoline and major road and expressway construction spawned a tremendous growth in auto ownership and suburban commuting. Despite the subway opening in 1954, ridership, which had peaked in 1949 at 314 million annual trips, declined throughout the 1950's and early 1960's, bottoming out at 240 million trips in 1962.

Without further subway construction, it was evident that the TTC would not be able to provide a level of service competitive with the automobile, and both transit and auto users would have to contend with an increasingly congested surface transit system.

It was under these circumstances that capital subsidies were initiated by Metro in 1959 and later by the Province in 1964, permitting the expansion of the subway system in the 1960's. This was a fortuitous decision - it was largely a result of the opening of the University and Bloor/Danforth subways that the ridership decline which had set in during the 1950's reversed itself during the 1960's. By 1968, annual ridership had climbed to 281 million trips.

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1 Notwithstanding a one-time $2.3 million grant from Metro in recognition of the increased costs associated with serving the enlarged Metropolitan area after 1954.

While it was recognized that subway construction benefitted the entire community and should be subsidized as public infrastructure, the actual involvement by Metro and the Province was by and large limited to providing this financial assistance. The TTC retained almost complete autonomy to run its operations. Its role was still primarily that of providing a financially self-supporting level of high-quality, safe, reliable and convenient transit service. Both rapid transit and surface service decisions were based on travel demand patterns.

Capital and Operating Subsidies

Moving into the 1970's, the TTC's mandate of meeting all operating costs from the farebox was becoming progressively more difficult to achieve. Consumer affluence, growth in auto ownership and urban sprawl continued to work against transit. The TTC's labour costs, roughly 75% of total operating costs, increased at well over twice the rate of inflation during the late 1960's. The resultant fares, while still relatively low, were perceived to be increasing at a faster pace than the costs associated with owning and operating a car. In 1969, ridership began to decline.

Concern that further fare increases or service cuts would start a self-perpetuating decline in ridership and jeopardize the hard won benefits of maintaining good transit service prompted the TTC to formally request financial aid for operations in its 1970 annual report.

In June 1971, the Province effectively cancelled the partially completed Spadina Expressway by withdrawing financial support. One month later, a new Public Transportation and Highway Improvement Act was introduced with major initiatives for both transit operating and capital subsidies.

Commencing in 1971, the Province agreed to contribute 50% towards the deficit of municipal transit operations, with the balance of the deficit to be met by the municipality concerned.[1]

The Provincial contribution to capital spending was increased from one-third of subway road-bed costs to 50% of most costs associated with building and equipping a subway. In late 1972, the Province increased the capital subsidy rate to 75%, and extended it to cover virtually all capital costs.

The Provincial initiatives in urban transportation have had a profound effect on transportation policy in Metro, by:

- Shifting priority in capital spending from roads to transit. Since the Province pays 75% of transit capital versus only 50% towards roads, Metro receives a greater return on its transportation dollars if it spends them on transit;

- Expanding the role of transit. Operating subsidies were an explicit recognition that transit served a number of social, environmental and economic objectives beyond that of simply providing a public transportation service; and,

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[1] While the actual formula and regulations changed between 1971-1976, the Province continued to contribute approximately 50% towards the TTC's deficits.

- Greater political involvement. Along with financial support and the broader role the TTC was expected to fulfill, came a greater political involvement in the decision-making process.

While capital subsidies allowed subway system expansion throughout the 1960's and 1970's, operating subsidies permitted substantial improvements to surface transit services, notably in the suburbs. The zone fare system, eliminated in 1973 (effectively reducing suburban fares by 38%), and a major expansion of service into the low-density suburbs were measures which successfully encouraged growth in suburban ridership.

Over the period 1970-1975, route mileage increased from 555 to 691 miles, revenue vehicle mileage from 72 to 94.3 million miles and ridership grew from 276 million to a record 357 million trips. This growth in TTC operations was coincident with the growth in operating subsidies - the revenue/cost ratio dropped from over 100% in 1970 to 64% in 1974 while operating subsidies grew to $34.2 million.

The magnitude of the subsidy increase evoked considerable adverse reaction at the time and subsidy growth was restricted in 1975. Fares, which had been frozen since 1969, were raised by 33% that year. In 1976, the Province stated that it would limit its increase in subsidy payments to only 5%, necessitating a further 20% fare increase. Thus fares were increased by a cumulative total of 60% within 11 months after 6 years with no increases.

Operating subsidy policy swung from one extreme to the other - just as quickly as the subsidy had been allowed to grow, its growth was restricted. Fare increases, foregone for 6 years, had to be made up all at once.

The User's Fair Share

The TTC's "Transit Revenue Policy Study", completed in 1977, cited the instability in operating subsidy policy as the major impediment to the formulation of a predictable fare policy. In response to recommendations contained in this report, the TTC, Metro and the Province agreed to the "user's fair share" principle, whereby the riders of the system would be responsible for 70% of TTC operating costs, even as these costs went up with inflation. Metro and the Province would split the remaining 30% approximately in half.[1]

The new subsidy formula injected some much needed predictability into the financing process. Since the subsidy was based on a fixed proportion of costs, Metro and the TTC were able to determine the fare/subsidy tradeoff within a broad range without materially affecting the Provincial subsidy.

At about the same time, the Commission developed a comprehensive set of service standards which would provide a consistent rationale for the level and distribution of transit service throughout Metro. These standards facilitated evaluation of both existing and proposed routes to ensure that resources were deployed efficiently. While "policy headways" were maintained, the basis for establishing the minimum level of service was made explicit.

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1 The Provincial subsidy consisted of 13.75% of eligible costs and special subsidies of 50% of start-up costs and estimated operating deficits for the first 3 years of major new rapid transit facilities, bringing the total Provincial contribution to approximately 15% of total operating costs.

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Despite the rationalization of fare, subsidy and service policy, ridership declined in 1976, 1977 and 1978. The large fare increases of 1975/76, coupled with a slowing down of the rate of service expansion and an economy recovering from a bout of inflation in gasoline (and other) prices, were largely responsible for this ridership decline.

"Transit in the 1980's: A New Direction"

Concern that the ridership decline of 1976-1978 would continue unless positive action was taken prompted the formation of the joint Metro/TTC Transit Policy Committee, which was directed to develop an overall long-term transit policy for Metro Toronto. A number of options dealing with different levels of governmental support in financial and other areas was prepared and evaluated in the Joint Metro/TTC Report "Transit in the 1980's: A New Direction".

Ultimately, in early 1980, the Commission and Metro approved the option which involved a full scale commitment to give transit greater priority and support through a variety of policies, and to provide additional financial aid for the implementation of those policies.

The major policy elements recommended and endorsed included:

- Service improvements, in both peak and off-peak periods on specific routes, including express services;
- Testing of new technology, such as The Communications and Information System (CIS), and articulated buses;
- Higher priority for transit on roads;
- Encouragement of transit-oriented redevelopment;
- Establishment of a new special subsidy tied to land use objectives;

- Testing of a new fare collection system; and,
- Introduction of a monthly pass, priced to be attractive to the heavy user.

Included as part of the financial provisions in this option was the amendment of the "user's fair share" from 70% to 68%, with the difference to be shared approximately equally between Metro and the Province.

The emphasis of these programs was to encourage ridership by making the service better, not cheaper. The rationale for lowering the revenue/cost ratio was that since the new programs were experimental in nature, the associated costs should not be borne by the users.

Over the past 3 years, the ridership situation has changed dramatically. After dropping off to 338 million annual trips in 1978, ridership has grown by 16%, reaching 392 million in 1981. Since this growth was much more rapid than anticipated, the TTC's revenue/cost ratio exceeded 70% in both 1980 and 1981, with a corresponding reduction in the rate of growth in operating subsidies.

There is no one factor which has caused the increase in transit demand. While some of the increase can be attributed to a strong marketing program and service improvements, much of the recent ridership growth is a result of external factors beyond the TTC's control. Escalating gas prices, increasing costs of auto ownership, Central Area employment growth, traffic congestion, and the costs and availability of parking in downtown Toronto have all played a part.

The rapid growth in ridership in 1981 resulted in service levels temporarily falling behind demand, with crowding emerging as a potential continuing long term problem.

2.2 Present Status of the TTC

The TTC is recognized as one of the world's finest transit operations, with a high level of per capita ridership and a healthy mix of riders from all income levels. Its success can be attributed to a number of factors, including:

1. A traditional emphasis on providing a high quality of service that is safe, clean, convenient and reliable by, for example:

   - High vehicle and service reliability standards;
   - Extensive training of operators, resulting in North America's best transit driving record;
   - Integration of surface and subway routes;
   - Ensuring that all TTC property, including vehicles and subway stations are clean and well-maintained;
   - Development of service standards to ensure an adequate level of service (coverage, headway, vehicle loadings) throughout Metro;
   - Flat fare structure with free transfers for simplicity;
   - Investigation of innovative technology to improve schedule adherence, reduce average wait-time, passenger information, etc; and,
   - A "quick-fix" program to minimize vandalism.

2. Maintaining a high degree of autonomy in operations. Despite increased involvement from the TTC's financial partners during the 1970's, the TTC still retains control over most elements of its operations. With respect to rapid transit, the TTC has traditionally had full responsibility for system design, technology selection and operation, including the careful integration of new rapid transit facilities with other transit services.

   The development of service standards has rationalized the process of dealing with requests for service changes, since all such requests must be reviewed and approved by area municipal councils before submission to the TTC, and are then evaluated using criteria that are widely known.

   By remaining relatively autonomous, the TTC has been able to maintain the integrity of its transit operations. A cohesive management approach has been retained, avoiding fragmented decision-making, while avenues for outside input have remained open.

3. Strong public support for transit over the years:

   - Overwhelming support of the proposal to build the Yonge Street line in the 1946 referendum;

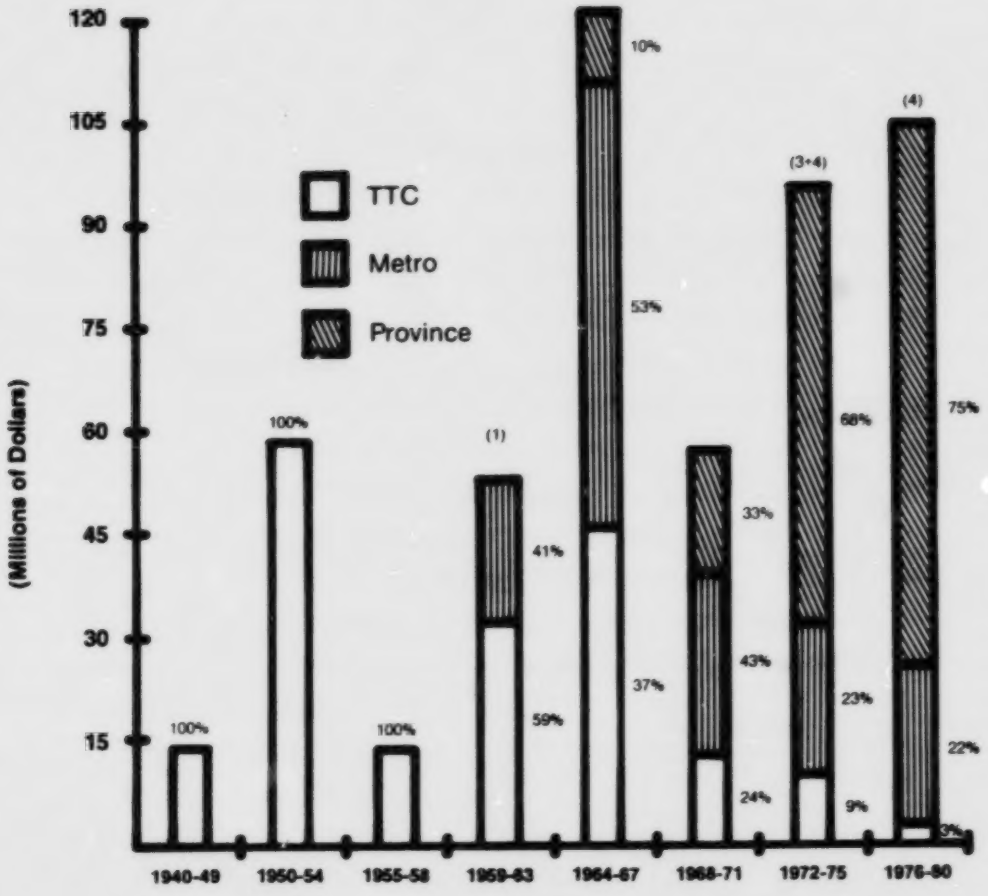
   - Increased financial support for subway construction since 1959, at a time when road/expressway construction was still in vogue. Priority for transit increased in the 1970's, with the introduction of the Provincial 75% subsidy for all transit capital spending (see Exhibit 2);

   - Increased financial support for operations since 1971 (see Exhibit 3);

EXHIBIT 2

FINANCING OF CAPITAL EXPENDITURES

AVERAGE ANNUAL EXPENDITURE
(1981 DOLLARS)



NOTES: (1) 1959 was the first year Capital Subsidy was paid by Metro.

(2) 1964 was the first year Capital Subsidy was paid by the Province.

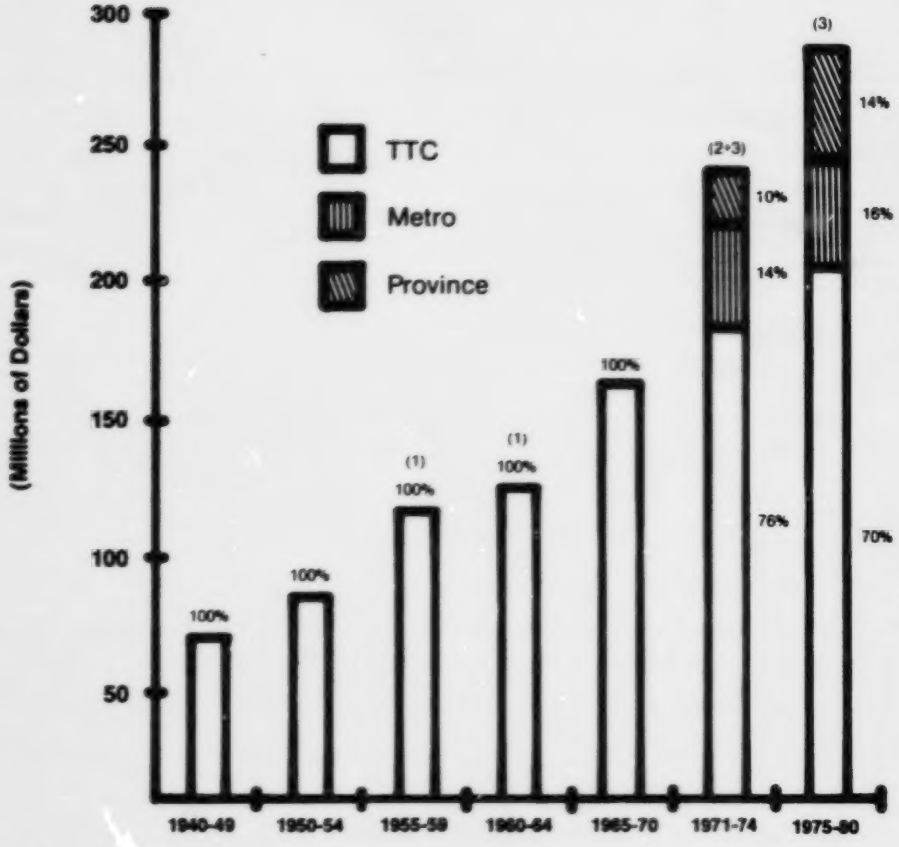
(3) In 1972, Provincial Capital Subsidy was expanded to include eligible expenditures incurred by Metro and the Metro Boroughs.

(4) Expenditures for 1972 and subsequent years include eligible expenditures incurred by Metro and the Metro Boroughs.

EXHIBIT 3

FINANCING OF OPERATING EXPENSES

AVERAGE ANNUAL EXPENDITURE
(1981 DOLLARS)



NOTES: (1) Does not include special Metro subsidies in 1956 and 1963 amounting to $2,300,000 and $2,500,000 respectively.

(2) 1971 was the first year Operating Subsidy was paid by the Province.

(3) Expenditures for 1971 and subsequent years include Metro direct expenditures for transit which consists of subsidized travel for senior citizens and blind and war amputees, total debenture debt charges, CNE Transit Plan contributions and remuneration and expenses of Council appointees.

- A strong commitment to transit-oriented land-use planning since the 1960's. The integration of transit and land-use planning, to be mutually self-supporting, has been recognized in the Metropolitan Toronto Official Plan; and,

- Endorsement of the "user's fair share" concept, whereby small, regular fare increases are implemented, rather than less frequent but larger increases. Over the past several years, this has promoted financial stability.

4. TTC personnel and labour relations:

- Traditionally, a strong management group, with extensive experience in transit;

- Competitive wage rates and benefits;

- Reliance on line management for implementation of policies;

- Resolution of labour relations issues informally or through standing joint union-management committees to minimize disruption of day-to-day operations; and,

- Low turnover with most positions staffed by people with considerable experience. Pride and loyalty exist at all levels and the pursuit of excellence permeates the organization.

The role of the TTC has changed significantly over the past decade. From its initial mandate of being financially self-supporting and virtually autonomous with respect to decisions regarding the provision of public

transit, the TTC has increasingly been required to fulfill a broader range of objectives, with many participants involved in the decision-making process. These objectives can be categorized as follows:

- Mobility and Accessibility: Provision of a safe, reliable, affordable and convenient transportation service to meet the needs of Metro residents, including such special interest groups as seniors and the disabled.

- A Balanced Transportation System: Providing a viable alternative to the automobile to minimize the need for new road and expressway construction.

- Energy Conservation: To move people more efficiently and thereby reduce Ontario's dependence on oil in the transportation sector.

- Technology Demonstration: As part of its overall transportation and economic development policy, the Province has invested heavily in the development of innovative transit technology. As Ontario's (and Canada's) largest transit operator, the TTC is expected to be the showcase for much of the new technology as it is developed.

- Land-Use: Through Official Plan policies, rapid transit is defined as a tool to support land-use objectives, notably to encourage high-density mixed-use development at growth centres outside the Central Area. From Metro's perspective, rapid transit (designed, constructed and operated by the TTC) is increasingly becoming more important in its land-use

role in addition to its traditional function of providing capacity in heavy demand corridors.

The multiplicity of objectives ascribed to the TTC has greatly increased both the importance and complexity of decision-making, and consequently, the demands on management. Constraints are more numerous and often conflicts between interest groups are unavoidable. It is in this increasingly political environment that the TTC will have to operate in the future.

The TTC has adapted well to changes in the past, with the aid of a strong management group, a great deal of pride and loyalty and desire for excellence at all levels in the organization, a philosophy of providing a superior quality of service, and financial support from government at crucial times. The following sections of the report represent an assessment of the future - to anticipate problems and opportunities - and evaluate whether or not current TTC policies will be appropriate in the face of a changing internal and external environment.

3.0 FACTORS AFFECTING THE LONG-TERM OUTLOOK

Thirteen studies were undertaken as background to the assessment of the major issues facing the TTC over the next decade. The purpose of this section is to present a brief summary of the factors which those studies and other sources have identified as having a potentially significant effect on the role and operation of the TTC.

3.1 Population and Employment Growth

Population Growth

- Population growth within Metro over the next decade is expected to be minimal, with total population increasing by about 50,000 to 2.2 million. Most of the population growth, summarized in Exhibit 4, will be concentrated in new subdivisions and in redevelopment areas in Scarborough, in the central Waterfront, and the North Yonge corridor.

- While several areas within Metro will experience considerable population growth, it is expected that currently developed areas, particularly in the inner municipalities, will actually decline in population size, largely as a result of declining household size.

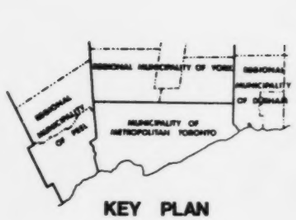
- Population growth in the regions surrounding Metro (Peel, York, Durham and Halton) is estimated to be about 375,000 by 1991, with most of this growth occurring in Peel to the west and York to the north. While new residential development in Peel will be largely beyond the TTC catchment area, new development in York will be concentrated immediately north of the Metro boundary, as shown in Exhibit 5.

Exhibit 4

Major Population Growth Areas

Within the TTC Catchment Area

	1981 Population	Projected 1991 Population	Increase 1981-1991
Within Metro			
Malvern	28,000	55,000	27,000
Milliken	5,500	22,600	17,100
Waterfront	1,500	15,300	13,800
North Yonge	9,500	19,000	9,500
Outside Metro			
East Woodbridge	11,000	40,000	29,000
Thornhill/Vaughan	6,600	45,000	38,400
Doncrest/Thornlea	300	17,600	17,300
Risebrough/Armadale Unionville	32,400	81,000	48,600
Highbush/Dunbarton	6,000	32,000	26,000


REGIONAL MUNICIPALITY OF YORK
REGIONAL MUNICIPALITY OF PEEL
REGIONAL MUNICIPALITY OF DURHAM
MUNICIPALITY OF METROPOLITAN TORONTO

KEY PLAN

Major Growth Areas 1981 - 1991

LEGEND

- Approximate Extent Contiguous Urban Development 1981
- Urban Area Extensions 1981 - 1991
- Significant Areas of Employment Intensification 1981 - 1991
- Parkway Belt and Open Space Areas
- Major Transportation Improvements 1981 - 1991
- (R) New Major Retail Centres

THE MUNICIPALITY OF METROPOLITAN TORONTO AND ENVIRONS

- The expected net result on TTC ridership of the projected population trends will be: slightly declining ridership in inner areas as population declines; increasing suburban ridership in the new development areas, particularly north-east Scarborough; and, increasing cross-boundary travel, particularly from the north.

Employment Growth

- Employment growth within Metro is forecast to be between 100,000 and 175,000 over the next decade. Actual growth will be highly dependent on general economic conditions and both Metro and area municipal development policies. In particular, the sensitivity of employment to economic forces has been indicated by the loss of about 50,000 jobs between the third quarter of 1981 and the fourth quarter of 1982, resulting from the current continuing recession.

- The Central Area will continue to be the single largest employment growth centre within Metro, as shown in Exhibit 6. However, the trend to deconcentration of employment, particularly in the service sector, will continue with major growth expected in the North York Civic Centre, the Scarborough Town Centre, and the Don Mills/Don Valley Corridor. Major industrial development is expected in the Tapscott area of Scarborough and the Highway 27 corridor in Etobicoke.

- The composition of employment in Metro will continue to change, with a further loss of manufacturing and industrial jobs to the regional municipalities and an increasing concentration of service sector jobs.

Exhibit 6

Major Employment Growth Areas

Within the TTC Catchment Area

	1981 Employment	Projected 1991 Employment	Increase 1981-1991
Within Metro			
Central Area (including Rail Lands)	185,000	223,000	38,000
North Yonge	10,600	41,000	30,400
Scarborough Town Centre	5,000	25,000	20,000
Don Mills/Don Valley Corridor	63,600	78,000	14,400
Tapscott	2,500	24,000	21,500
Highway 27 Corridor	29,500	38,000	8,500
Outside Metro			
Airport Industrial	56,500	92,000	35,500
North Don Mills	12,000	35,000	23,000
Highway 400/Keele	20,000	34,500	14,500
South Markham	1,000	8,900	7,900

- Employment growth in the regions surrounding Metro is expected to exceed 200,000 over the next decade, with approximately 85,000 of the increase in growth areas immediately adjacent to Metro, notably the Airport Industrial Area in Peel, and in the Highway 400/Keele and North Don Mills corridors in York. The high proportion of industrial and manufacturing jobs expected in the outlying regions will make this growth particularly sensitive to the level of general economic activity.

- Ridership impacts of the expected employment growth trends include: increasing peak period trips to service sector concentrations, particularly the Central Area and designated subcentres; and, increased reverse flow travel to industrial areas north and west of Metro.

3.2 Social and Economic Trends

- The economic recession of 1982 is expected to continue beyond the end of the year, with a gradual recovery not expected until the third or fourth quarter of 1983. Quite possibly, significant improvement will not be discernable until mid-1984. The timing and extent of this recovery is highly uncertain, dependent upon such factors as: interest rates, government policies, consumer confidence, and international conditions and policies.

- High interest rates should prevail for the next few years, until a significant easing of inflation can be achieved. It is likely that interest rates will remain well above levels experienced in the 1970's throughout the coming decade. The success of recent Federal initiatives to promote voluntary restraint, and Provincial programs to limit public sector cost increases may be a key factor in the future level of inflation.

- Real wages, which have flattened out over the past few years, are expected to continue to fall until after a major economic recovery has occurred. In the short-term, the decline in real wages may be quite marked, due to poor economic performance, wage guidelines and, quite possibly, controls.

- Metro's population should age throughout the 1980's, with a smaller under-20 segment, a greater working age population and more seniors. The TTC's potential market will thus be getting progressively older and more dispersed throughout Metro, with a noticeable decline in school age ridership.

- Female labour force participation rates (especially of suburban working mothers) will continue to increase, due to:
  - economic necessity
  - changing lifestyles
  - growth in service sector employment opportunities (including part-time).

  This will create demands for extended hours of family-oriented services and engender a growth in transit usage and dependency of suburban working women.

- Affordability of housing will be a key factor in determining the age and income composition of Metro residents and their location within the Metropolitan Toronto area. High housing prices, accentuated by high mortgage interest rates, will continue to push low income groups and young families out of the Central Area (and Metro). Any removal of rent controls will exacerbate the affordability problem in the short-run and further contribute to the exodus of lower-income groups from the most favourable central

areas. The suburbs will thus increasingly be composed of a greater number of transit dependent groups.

- High prices, interest rates and operating costs will make car ownership more difficult, resulting in considerably fewer 2-car households in the future. Metro residents, facing a budget squeeze as their real disposable income declines, will find use of transit a means to cut back on costs.

- Mobility demands of Metro residents should continue to increase. Deferred retirement, increased mobility of seniors and the disabled will result in greater transit usage by these groups. The increase in urban-oriented recreational activity should continue and the trend toward focussing on Metro (and especially downtown) rather than long-distance travel, due to transportation costs, should persist.

- Transit is increasingly accepted as a tenable alternative to the car, particularly in the Central Area. Metropass encourages this transit lifestyle.

3.3 Energy

- Under the existing Federal-Alberta pricing agreement, gasoline price increases are expected to moderate gradually after 1983, although they will continue to be above the rate of inflation for some time. Ridership increases due to gasoline price increases are expected to be modest over the next decade.

- Barring a major cut-off in Middle Eastern oil, supply problems are not anticipated to the end of the decade. In

an emergency, transit is assured a high priority for diesel fuel.

- No shortage of electrical energy in Ontario is foreseen over the next decade. Price increases are expected to continue at about the level of inflation.

- High costs and operational problems indicate that retention of a sufficiently large contingency fleet by the TTC to be used in the event of an oil shortfall is not cost-effective. It is estimated that the most extreme shortfall which could reasonably be expected could be accommodated on a short-term basis without major difficulty.

- Few technological break-throughs in energy conservation or substitution (including alternative fuels) are expected by the end of the decade.

- In general, the energy picture appears relatively stable for the near term. Monitoring of developments in the energy sector should be maintained to identify potential problems as they emerge.

3.4 Transit Technology Development

- Few major technological innovations are expected during the decade. For the major opportunities investigated, the TTC is currently involved in study, test or implementation.

- Articulated vehicles could have the largest single impact of any new technology. Depending on the results of the 1982 articulated bus demonstration program and the TTC's current evaluation of articulated light rail vehicles, the

surface vehicle fleet mix could change substantially. The benefits are potentially significant in terms of increased labour productivity, higher capacity and service improvement.

- The Scarborough RT, using ICTS technology, will be in operation by the mid- 1980's. While other ICTS applications have been proposed, it is not clear whether or not they will be in operation before 1991. In any event, the Scarborough line should provide sufficient operating experience of this new technology to ensure that further applications of ICTS, if any, can proceed smoothly. It is expected that special funding arrangements would be available to cover higher ICTS capital and operating costs, as necessary.

- CIS represents a major opportunity to use innovative technology, to improve schedule and headway adherence and efficiency, passenger convenience and both operator and passenger security. A CIS development program is currently well under way and a decision to proceed with this system will be based on the results at Wilson Division.

- Test programs of two other technologies, signal priority systems and magnetically encoded ticket (MET) fare collection systems are currently underway. Regarding the former, further application will be based primarily on political decisions to provide higher priority for surface transit vehicles; the technology itself needs little or no development. For the latter, the results of a 1983-84 demonstration program will determine the viability of system-wide implementation.

3.5 Automobile and Road System Use

- Use of the road system by both automobiles and transit is expected to increase significantly over the decade throughout all parts of Metro. Much of this increased usage will come from commuters outside Metro, with severe congestion expected crossing the west Metro boundary.

- Few road improvements are expected in Metro over this period, although the limited expansion anticipated will likely include increased consideration of transit needs as, for example, with the Allen Road (under construction) and Brimley Road (proposed) improvements. Some improvements in and around the Central Area will probably be necessary, as well.

- At the same time, however, there is a reluctance on the part of inner-Metro municipalities to accept further use of their roads by suburban cars. A similar sentiment is growing in the suburbs towards non-Metro commuters. A possible result is an increase in local traffic control schemes, forcing an increasing number of drivers onto the arterial road system.

- As a result, road congestion will become much worse in Metro over the decade. Surface transit will be slowed considerably, generating further capital and operating costs.

- A possible solution to this problem will be greater use of reserved transit lanes, which, as will be discussed later, can increase transit capacity and level of service, and reduce costs. As this may have a significant impact on auto travel, political approval may not be easily secured. Roads may have to be improved to make some of these transit priorities possible.

- Demands for traffic engineering improvements to aid auto movement, particularly in the Central Area, may conflict with surface transit requirements. An example would be implementation of one-way street pairs which could require splitting of transit routes unless contra-flow transit priority lanes are part of the proposal.

3.6 A Changing Labour Force

- The TTC is not expected to have difficulty in attracting and retaining employees. The number of job applicants is high for almost all positions, turnover is low and wages and job security are comparable to or better than most similar organizations.

- However, the composition of the TTC work force will continue to change over the decade, with increasing numbers of more highly skilled and educated employees (due to the increased technological sophistication of TTC positions and a general trend toward higher education). Women and ethnic minorities will also become a higher proportion of the TTC workforce. The latter two groups may be supported by equal opportunity and affirmative action initiatives or legislation.

- Associated with a change in background of workers will come a change in attitude towards work and derived rewards. A greater emphasis on job satisfaction and working conditions, including demands for special services or facilities and participation in decisions that affect their work, can be expected.

- The issue of part-time labour, traditionally, has not received the support of organized labour within the transit industry. However, the growing demands of the

increasing numbers of older workers and single parent workers may ultimately lead to a change in this position.

- Loss of internal control or autonomy in operations, due to a greater level of political involvement, coupled with the growth in transit employment opportunities elsewhere in Canada, may induce early retirement or turnover of a substantial number of critical senior staff.

3.7 Crime and Vandalism

- Review of security statistics over the past several years reveals a gradual increase in reported criminal occurrences. However, given the expansion of the subway system, mileage operated, and passengers carried, this increase is relatively minor. The probability of being victimized on a round trip on the TTC has actually declined from 5.0 to 4.3 chances in a million between 1976-1981.

- The increase in overall criminal incidents on the TTC is mostly attributable to specific offences, notably vandalism. Thefts (the most frequently reported crime) and assaults have risen only slightly. In 1981, the chances of being assaulted on a TTC trip were only 1 in a million. Violent crimes involving weapons are extremely rare.

- The risk of being involved in a criminal incident on the TTC is only about half that experienced in the U.S.A. when riding transit. Even at that, the chances of being victimized involving a Criminal Code offence when riding the TTC is about two-thirds of that when not riding the system.

- Further growth in criminal occurrences on the TTC is not expected to be substantial. However, there are a number of factors which may be significant. The increase in malicious damage to the system may be indicative of a more confrontational stance between certain groups and symbols of authority such as the TTC.

- Many studies over the past few years have stated that racial tension is growing in many areas of Metro Toronto. Although not yet manifested on the TTC, increased numbers of inter-ethnic violent incidents accompanied by a greater victimization of ethnic minorities is possible.

- Those groups who are most susceptible to and fearful of crime, namely women, senior citizens and ethnic minorities, are expected to represent an increasing proportion of total ridership. Thus, the perception these groups have of the safety of the transit system will become increasingly important.

3.8 Government Policy and Transit Financing

- Over the past decade, the Province and Metro have become more directly involved in transit decisions as their financial interests have increased. This involvement is expected to continue and increase as transit is emphasized more frequently for its "non-transportation" effects.

- The TTC will be expected to support Metro policies related to land use and social objectives, and Provincial objectives for economic development and technology demonstration. It is expected that the policy of special earmarked capital and operating subsidies for these purposes will continue.

- While both the Province and Metro have stated policies indicating support for transit, some of their actions tend, at times, to work against these policies. Recent examples are the imposition of Provincial sales tax on municipal transit vehicles delay or rejection of transit priority measures and implementation of stop sign traffic reduction schemes on transit routes. Resolution of such policy/program conflicts will affect, to some extent, TTC operations and policy over the next decade.

- With continuing financial constraint combined with demands for government funding of a wider variety of programs, including transportation, it is anticipated that both the Province and Metro will more carefully scrutinize capital and operating budgets and demand greater justification for increased funding. As TTC service expands and costs increase, there may be growing pressure to minimize absolute subsidy amounts. The recently announced Provincial legislation to limit all public sector wage increases to 5% during a twelve month period in 1983/84 will not directly affect non-labour expenses with the result that cost increases of greater than 5%, for a comparable level of total service, can be expected.

3.9 Environmental Factors

- In providing a quality transportation service throughout Metro, the TTC must necessarily "intrude" into a large number of local neighbourhoods. The elements of the transit system which most often generate concern/complaints from local residents include: TTC stops; streets used for routes and loops; and, garages and carhouses.

- Complaints usually involve either noise and vibration, air pollution, acts of public mischief (such as littering and

vandalism), children's safety, loss of privacy or a general deterioration of visual aesthetics. Noise and vibration complaints are a major concern, particularly related to late night operations.

- Environmental concerns have and will continue to have a significant impact on TTC operating policy, resulting in delays, changes or cancellation of proposed facilities, route implementation, or operation of service.

- Environmental Assessment Act legislation now extends well beyond major rapid transit construction, to cover such projects as garages, commuter parking lots and even conversion of bus to trolley coach lines, for example. The EAA approval process will significantly extend the time and cost of construction for major projects.

- The TTC will have to become more involved with the local planning process to ensure that municipal planning staff, politicians and the public understand and support TTC service policies.

4.0 RIDERSHIP TRENDS AND FINANCIAL IMPACTS

4.1 Ridership Trends

4.1.1 Overall Growth

The TTC Five-Year Forecast is shown in Exhibit 7, below, with an extrapolation to 1991. Ridership is expected to continue to grow, reaching 450 million annual trips by 1991. This projection implies a growth over the decade 1981-1991 of 14.8%, a significant slowdown from the rate of growth experienced in recent years (5.8% in 1980 and 7.0% in 1981). It should be noted that this is an aggregate ridership estimate which does not account, for example, for the split between subway and surface ridership. System capacity, particularly at existing congestion points of the subway could become a severe problem at the 450 million ridership level. This issue is dealt with in Section 5.3.

The ridership forecast was developed with the assistance of the TTC Ridership Factors Model (a time-series multiple regression model), with projections for such explanatory variables as population and employment growth, real fares, gas prices, disposable income, and service improvements. Recent trends and five-year projections for some of the key variables are listed in Exhibit 8, and described following.

Exhibit 7

Five/Ten-Year Ridership Forecast

(Millions)

	1981	1982	1983	1984	1985	1986	1987	to 1991
Ridership	392	402	407	417	422	427	432	450
% Annual Growth	7.0	2.6	1.2	2.5	1.2	1.2	1.2	14.8[1]

[1] % growth 1981-1991.

Exhibit 8
Percentage Increases/(Decreases) in Ridership and
Explanatory Variables (1980-1987)

	1980	1981	1982	1983	1984	1985	1986	1987
Ridership	5.8	7.0	2.6	1.2	2.5	1.2	1.2	1.2
Real Gas Price	8.5	23.0	7.8	6.8	6.4	3.7	2.9	2.8
Real Wages	(1.0)	(0.3)	(1.4)	(1.4)	(0.5)	(0.1)	(0.1)	(0.1)
Real Fares	(10.5)	0.6	(1.0)	(1.0)	(0.5)	(0.5)	(0.5)	(0.5)
Employment	2.3	3.3	(1.9)	0.1	2.0	2.0	2.0	2.0
Service Mileage	2.4	5.9	5.3	0.2	2.7	2.8	1.0	1.2

Real Gas Prices

Output from the Ridership Factors Model indicates that much of the ridership increase during 1980 and 1981 can be attributed to hefty gasoline price increases. In 1981, gas prices at the pump rose 23% in real terms. Future real increases in gas prices are expected to be much less severe and thus ridership gains due to this factor should be relatively modest.

Other costs associated with car ownership, notably carrying costs (dependent on purchase price and interest rates), insurance, maintenance and parking have increased and will likely continue to increase at a greater rate than the cost of using transit. As noted earlier, the projection of fewer 2-car households in Metro implies a greater dependence on transit.

Employment

The level, composition and location of employment in Metro will be one of the key factors in determining future ridership. The rapid deceleration in ridership growth experienced by most Canadian transit properties during the second and third quarters of 1982 can largely be attributed to the recession and the resultant rapid growth in unemployment (the unemployment rate for Metro during May 1982 was 55% higher than in May 1981).

The long-term forecast reflects the assumption that the current economic malaise will continue well into 1983, but that with recovery commencing in late 1983 or 1984, employment growth should continue throughout the balance of the decade. The excess of employment over population growth within Metro will continue to encourage cross-boundary commuting from the outlying regions where a strong rate of population growth should be sustained.

An increasing growth and concentration of service sector employment in the Central Area and at subcentres, where transit service is more convenient and parking is expensive and in limited supply, should result in more commuters using transit for these work trips.

In summary, employment is one of the key factors influencing trans t ridership levels. High unemployment, particularly in high transit use employment areas such as the Central Area will have a significant negative effect on ridership. The future ridership levels projected in this analysis will be highly dependent on the timing and extent of a future economic recovery.

Real Wages

Personal disposable incomes have not, on average, kept pace with inflation over the past few years. Given the current state of the economy and depending on the success of existing and future government restraint programs, it is possible that a further decline in real incomes will occur. High interest rates will continue to exacerbate the budget squeeze, particularly with respect to housing. Transit offers an increasingly important and relatively painless opportunity to cut back on transportation costs, whereas options to reduce expenditures on housing will have much more disruptive consequences.

TTC Programs

TTC policies and initiatives with respect to marketing, the introduction of the monthly pass, and increased service levels have made an important contribution to ridership growth over the past few years. The major impacts reinforcing the relative cost advantages of transit versus the automobile (unless energy costs rise dramatically again) and the monthly pass (which encourages off-peak usage by the current heavy user) have probably been realized. However, some modest ridership gains will still likely be generated from these sources with continued marketing efforts. Providing additional service in response to demand is somewhat self-perpetuating, since improved service (express buses, reduced headways, etc.) can act to further stimulate ridership.

4.1.2 Alternative Scenarios

Forecasts of ridership are subject to considerable uncertainty. The actual future trends of factors affecting ridership are not easily projected and the precise nature of

the relationship between ridership and those factors which influence it is not fully understood. While long range policy is predicated on the most probable scenario, it is important to consider the upside and downside risks. Thus a range of ridership forecasts has been produced. These are depicted graphically in Exhibit 9 and discussed following.

Low Growth Scenarios

A lower rate of growth than forecast, or even a long-term decline in ridership, could occur for a number of reasons. A prolonged recession is a distinct possibility, and the coincident reduction in consumer spending and growth in unemployment could result in a negative impact on ridership, affecting both work-related and discretionary trips.

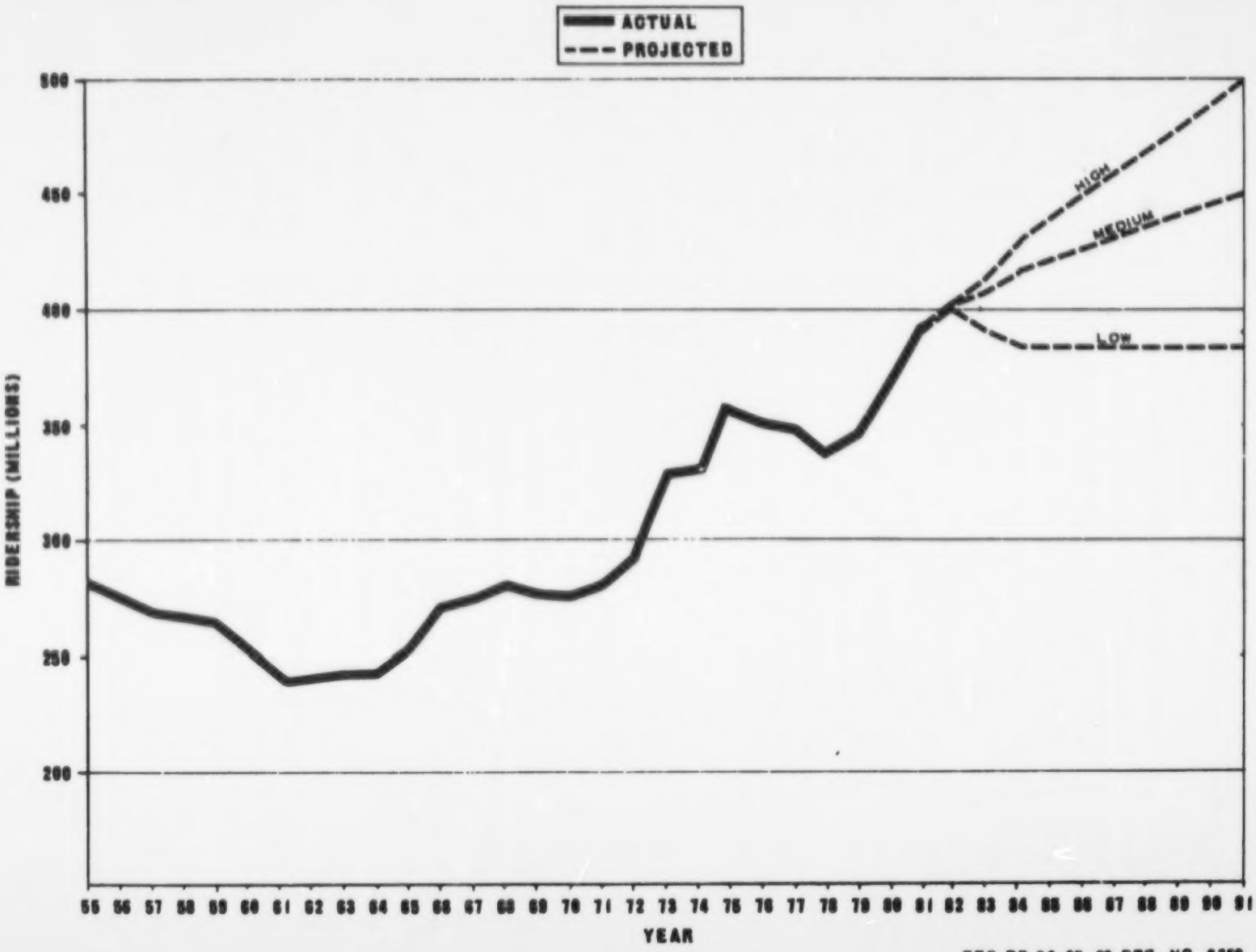
Alternatively, some economic recovery and reduction in inflation and interest rates, coupled with a continued surplus of world oil and low gas prices, could stimulate growth in auto usage at the expense of transit. With smaller and more fuel efficient cars and the availability of relatively cheap gas, a drop in interest rates and thus carrying costs could release the considerable pent-up demand for new cars.

Transit ridership is highly dependent on the level and quality of service offered. If service is impaired due to labour unrest or cutbacks in government financing, for example, then ridership would be adversely affected.

For purposes of contingency planning to be discussed in Section 5.9, a 1991 ridership level of about 385 million trips is assumed for the low scenario, compared to the 450 million trips currently forecast as most probable.

TTC RIDERSHIP :
HISTORICAL TREND AND FUTURE PROJECTIONS

EXHIBIT 9



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High Growth Scenarios

A higher rate of growth in ridership than forecast is possible if those factors which contributed to recent growth reoccur, notably a resurgence in employment growth and/or future energy price "shocks". TTC/Government policy with respect to construction of rapid transit, transit priority measures, land-use development, and parking restrictions could all have a positive impact on ridership.

Under these favourable conditions, it is possible that ridership could grow to as much as 500 million trips by 1991, although the TTC's ability to accommodate this level of ridership would be dependent on greater system capacity and, implicitly, increased financial support (see Section 5.7.1).

4.1.3 Growth Patterns by Geographical Area

Most of the growth in ridership over the past few years has come from the major population growth areas in the suburbs (particularly the north and east), and beyond Metro from the Regional Municipalities of Peel to the west and York to the north. Virtually all the suburban bus routes have experienced growth at or above the system average and the suburban terminals of the subway lines have witnessed a tremendous increase in usage as well. For example, Finch Station usage increased by 38% between 1978-1981.

Increasing levels of employment in the Central Area, coupled with suburban and outside Metro population growth indicate that this focus on long distance trips oriented to the subway and downtown will continue. The growth in population contiguous to Metro in York will have a particularly significant impact on the Yonge subway line.

At present, approximately 8% of TTC rides are taken by non-Metro residents and this proportion is expected to increase to as much as 12% by 1991 (representing about 40% of the total increase in TTC ridership over the decade).

While much of the growth in ridership will be downtown destined commuters, employment growth in suburban centres can be expected to lead to some level of reverse flow ridership on the Yonge subway (to the North Yonge Centre) and the future Scarborough RT (to the Scarborough Town Centre). In addition, there will also be increased demands for suburban transit services oriented both to the subway and across the grid.

The changing composition of the suburbs, with increasing concentrations of seniors, low-income groups, working women and other transit dependents will accelerate demands for suburban transit services that are comparable to those offered in the Central Area. This will include more off-peak service and a greater orientation to local activity centres for medical, shopping and recreation purposes, as well as to the subway.

4.1.4 Growth Patterns by Time of Day

At the present time, slightly less than 50% of average weekday ridership occurs during the four peak hours of the day. There has been an overall increase in ridership during all time periods, although the rate of increase has been slightly more pronounced during the off-peak with much of this increase a result of the introduction of the monthly pass.

Growth in employment, increasingly concentrated at centres where parking is relatively scarce and expensive.

implies that probably 50% or more of the absolute increase in ridership will be for peak period journey-to-work trips. Due to crowding, variable work hours, etc., some further spreading of the peak can be expected.

Off-peak riding will continue to increase as well. There will likely be a greater number of people dependent on transit; a continued increase in leisure pursuits within Metro; growth in part-time employment; and a possible extension of service hours to accommodate the needs of greater numbers of two-worker households.

4.2 Financial Impacts

4.2.1 Operating Costs and Subsidies

Operating costs and subsidies associated with the three ridership growth scenarios are shown in Exhibit 10, assuming that the nature of service and costs remain relatively unchanged, and that an annual inflation rate of 7% will prevail after 1983. For the medium and high scenarios, real (i.e. deflated) costs are expected to increase at a lower rate than the growth in service mileage, primarily due to the fact that there are many costs which do not increase in direct proportion to mileage, thus allowing economies of scale to be achieved.[1] For the low ridership scenario, the reverse is true.

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[1] N.B. If traffic congestion continues to deteriorate, these cost savings may not be realized as more vehicles and operators will be required to provide the same level of service.

Exhibit 10

TTC Operating Expenses and Subsidies (1981 and 1991)[1]

	1981	1991	% Real Increase 1981-1991	% Mileage Growth 1981-1991
Scenario:	($ millions)			
Low				
Expenses	290	613	1.0	0.4
Subsidies	85	196		
Medium				
Expenses	290	695	14.8	19.7
Subsidies	85	222		
High				
Expenses	290	733	21.1	29.7
Subsidies	85	235		

[1] Subsidizable expenses.

The percentage increase in real subsidies is roughly equivalent to the real growth in costs, since operating subsidies are based on a fixed proportion of costs. For the medium growth scenario, a real increase in operating subsidies of approximately 15% can be expected over the period. While this increase is relatively modest when compared to past growth in real subsidies, it comes at a time when there will likely be pressure to keep public spending increases to below the rate of inflation. Thus, transit will require a greater proportion of a relatively smaller subsidy pie. As noted earlier, competition for funds in an era of restraint will undoubtedly be severe.

4.2.2 Capital Requirements

Over the forecast period, accommodating ridership growth will necessitate a considerable expenditure on both rolling stock and plant requirements. The bus fleet will need to grow by approximately 350 vehicles (nearly 25%), and at least one other suburban bus garage (after Malvern) will have to be built, assuming the medium growth scenario. A new streetcar service may be required to service a portion of the proposed Harbourfront/Waterfront development. In addition, 46 new and replacement subway cars are expected to be added to the current subway system.

Other rapid transit requirements, to be discussed at length in Section 5.3, may significantly add to total TTC capital costs. The recent Metro/TTC Rapid Transit Study concluded that a potential "first-stage" addition to the rapid transit network could cost approximately $400 million, in 1982 dollars.

5.0 MAJOR POLICY ISSUES

The previous two sections have summarized both a variety of internal and external factors which will affect the TTC over the next decade, and the expected general ridership demands resulting from those factors. This section synthesizes those factors, identifies major impacts on TTC operations and management, and discusses potential policy responses.

5.1 Cost-Effective Accommodation of Ridership Growth

While ridership growth may level off or even decline in the short term due to poor economic conditions, substantial increases in transit demand in both peak and off-peak periods are expected over the long term. At current service standards, this implies a continued increase in service mileage operated. Accompanying ridership and service growth will be an expected fiscal austerity imposed by both Metro and the Province, with pressure to minimize the growth in subsidies, and hence, costs. As the agency responsible for transit in Metro, the TTC has a mandate to encourage the use of public transit and to provide a transit service the accommodates resultant demands at adequate levels of service. As a result, the key challenge facing the TTC over the next decade will be the accommodation of ridership growth in the face of two major constraints: maintenance or improvement of existing service levels; and, restriction in the growth of subsidies and costs.

The consequences of not satisfying the demand for peak period transit trips are obvious:

- Crowding will increase on the surface and subway systems. While not yet intolerable, crowding is

becoming a major problem, particularly on the Yonge subway line south of Bloor Street. If allowed to continue, this will lead to a significant deterioration in the quality of service and the important "choice" rider group may be driven back to their cars. An unfavourable image, once obtained, is very long-lasting and difficult to reverse.

- As people are driven back to their cars, congestion on the roads increases, slowing both transit and auto traffic. If people, and goods, take progressively longer to get to their destinations there is ultimately a great incentive to locate elsewhere. A congested road and transit system is thus detrimental to the efficient operation and economic welfare of Metro.

- Growing road congestion leads to a greater demand for road/expressway construction. Transportation expenditures are just shifted from transit to roads. Road/expressway construction is considerably more costly and damaging to the urban environment, and promotes extensive rather than intensive land use and greater energy consumption.

The implications of not accommodating off-peak ridership growth are less severe, yet still important. The changing structure of Metro's population, both spatially and demographically, implies a greater reliance on off-peak service to meet basic mobility and accessibility needs. Failure to meet these needs results in a declining level of service for a growing proportion of Metro's population.

Accommodation of ridership growth will necessitate increased peak period capacity in both central and suburban

areas. If surface capacity is increased by conventional means, operating costs will continue to increase at a rate exceeding inflation, for the following reasons:

- Mileage increases will generally exceed ridership increases. This results from increases in suburban-originated trips with longer average trip lengths and low passenger densities;

- Growth in peak hour trips will be significant with high marginal costs due to the need for additional manpower, demand consumption charges for electricity and lower average operating speeds;

- In general, transit operating speeds may decline in all periods and throughout Metro, as a result of growing road congestion (caused by both transit vehicles and automobiles). As average speeds decline, additional vehicles will be required simply to maintain capacity. As a general rule, operating costs per mile will vary inversely with average speeds;

- Increases in fuel costs (notably diesel fuel) are expected to continue at greater than the rate of inflation; and,

- Labour costs, representing roughly 75% of total operating costs have historically been related to the Consumer Price Index through cost of living allowances. While Provincial legislation will limit wage increases to 5% between July 1983 and July 1984, it is uncertain what the long term trend in wage increases will be. Should wages once again return to a rate of increase comparable to the inflation rate,

total costs can be expected to rise at a rate greater than inflation.

There is considerable uncertainty regarding the extent to which financial support will be available in the future. While it is expected that political support for transit will remain relatively strong, the possibility of an abrupt restriction to subsidy growth is very real. If operations are continued in a "business as usual" fashion, higher levels of subsidy will be required with increasing vulnerability to changes in funding policy.

Should a subsidy restriction be imposed, the short term responses are limited to either service cutbacks or a fare increase to a level greater than currently required by the 68% revenue/cost ratio target. Neither solution is desirable, with expected negative impacts on mobility and accessibility and ridership levels.

Maintenance of service levels to meet growing demand must continue to be a high TTC priority. At the same time, financial vulnerability must be reduced through a concerted effort to minimize the growth in subsidies. The following section explores some opportuniies for pursuing this objective.

5.1.1 Productivity Improvements

The key strategy over the next decade for accommodating ridership growth while minimizing increases in subsidy requirements will be one of improved productivity.

In one respect, transit service is a unique product. Unlike productivity improvement in most industries which serves simply to reduce unit costs, transit produc-

tivity improvements will additionally improve the quality of the product (through speed increases or increased ease of use), thereby making the service more attractive to riders.

Improved productivity also means that by using existing resources more intensively, a higher level of capacity can be provided with existing facilities and equipment, allowing the TTC to more easily meet its objective of accommodating ridership growth. However, increased productivity should not be interpreted as simply eliminating current functions. For example, a major factor in the efficiency of TTC operations has been the high standard of vehicle and plant maintenance - which should not be compromised. In addition, a property such as the TTC with a relatively old infrastructure, will require significant expenditure simply for capital maintenance.

In order to reduce costs per revenue passenger (in real terms), and thus limit subsidy growth, it will be necessary to reduce real unit operating costs (costs/vehicle-km) or improve service utilization (passenger/vehicle-km) or a combination of both. Different measures will be required to improve performance in these two areas. The key requirement will be the development of a comprehensive program of productivity improvement methods. If such a program of productivity improvement is to be effective, specific performance objectives must be set as part of the annual 5-year forecast and budgetting process.

While the TTC is already one of (if not the) most efficient transit operations in North America, there are opportunities which can be pursued to improve the present ratio of cost per revenue passenger. Some examples of these opportunities are discussed in the following sections.

Vehicle Fleet Mix

The traditional approach of adding more vehicles (i.e. buses to bus routes, streetcars to streetcar routes) on existing surface transit routes to match growing service demands will increase the capacity on those routes, but will not result in any reduction in costs per passenger.

The present TTC surface transit fleet is made up of 30-foot Orion buses, standard 40-foot diesel buses, 40-foot trolley buses and streetcars, all having different capital and operating costs. In addition, the TTC will be investigating the use of articulated streetcars and 60-foot articulated buses starting in the fall of 1982. These latter vehicles can carry up to 50 percent more passengers than standard 40-foot vehicles, permitting a 2 for 3 replacement on high demand routes and a significant improvement in labour productivity.

With the variety of vehicle types available to provide optional but similar service on different surface routes in the system, it is important that the most cost-effective mix of vehicles be chosen. A report titled 'Vehicle Fleet Mix Study' has been recently completed to establish a Commission policy position on the most appropriate long-term surface vehicle fleet mix for the TTC. It recommended that articulated diesel buses be incorporated into the surface vehicle fleet provided that current operating test results are satisfactory. Articulated Light Rail Vehicles (ALRV's) were also recommended as a possible replacement for a major portion of the remaining PCC fleet. The majority of the current streetcar network was recommended for continued operation along with the conversion of bus routes to a streetcar mode when ridership approaches 3,000 passengers per hour or more in the peak direction. The study

also recommended that consideration be given to eliminating the existing trolley coach network when the current fleet requires replacement in 1989, and that the small (30-foot or similar size) diesel bus fleet not be expanded at this time.

Increasing Capacity on the Existing Subway System

Crowding is starting to be a problem during peak hours on the Yonge Subway south of Bloor Street. Since the Yonge Subway is now at or near its practical capacity limit under existing signalling and operating conditions, crowding will become a serious problem if ridership growth continues at the expected rate.

In the short term, attempts can be made to relieve this crowding by diverting some of the ridership to both the University subway and parallel express bus services and in the longer term, as demand warrants, an additional rapid transit line may be constructed (see Section 5.3) into the downtown.

However, to ensure that the TTC is getting the most out of its existing resources, a study has recently been completed on the practicality of increasing the capacity of the Yonge/University line. Results of this study indicate that an additional capacity of 2,000 to 3,000 passengers per hour per direction (2 additional trains) could be achieved through some operational and technical changes. The Commission has, accordingly, authorized its staff to proceed with the implementation of these changes, subject to budget considerations. Although the subway capacity could be increased by about 10,000 pphpd through a major upgrading of facilities, it was concluded that such a solution is not cost-effective and, therefore, is not recommended for implementation. The study concluded that, given the growth

projections for downtown, an interim surface transit plan and feasible subway capacity increases would not be sufficient to meet the long-term forecast capacity shortfall on the Yonge/University line.

Transit Priority

While in many areas of Metro the road system is approaching its capacity in terms of the number of vehicles carried in the rush hours, there is considerable potential for increasing the passenger capacities, through the implementation of transit priority measures.

On a typical four-lane arterial road with signalized intersections, one lane can carry approximately 900 people per hour assuming an average occupancy of one and a half people per car. If that lane were given over to standard buses operating one minute apart in the rush hours, it would carry from 3,500 to 4,000 people per hour. Articulated buses, operating one minute apart on an exclusive transit lane could carry up to 6,000 passengers per hour.

The major benefits from transit priority result from increasing average transit speeds. For example, if bus speeds on a given route can be increased by 25% from say 10 mph to 12.5 mph, then the number of buses required to operate that route can be reduced by 20% from say 20 buses to 16 buses. Not only does this require less manpower to operate, and therefore reduce operating costs, but with reduced vehicle requirements substantial capital cost savings can be realized.

Opportunities for transit priority are shown in Exhibit 11, based solely on existing vehicle frequencies. Transit priority can be implemented in a variety of

EXHIBIT 11

Candidate Transit Priority Applications

——— Streets with 30 or more Transit Vehicles per hour in the peak hour

– – – Streets with 24 to 30 streetcars per hour

T.T.C. P.D. 82. 11. 25 DRG. NO. 6368

locations. It can provide a higher capacity and level of service on suburban routes feeding the subway and can be implemented to provide higher levels of east-west capacity north of the Bloor/Danforth subway, as that need materializes. Most importantly, transit priority can be used to meet the immediate and short-term capacity needs of the Central Area. While the ultimate needs of the Central Area will likely require rapid transit, transit priority can provide necessary capacity that may allow the capital investment of rapid transit to be deferred.

Relative to the priority offered transit in many European properties, very little has been accomplished in Metro thus far, despite the recommendations made by the joint Metro/TTC Transit Policy Committee in December 1979. Although a few exclusive transit lane treatments and the installation of a pre-emptive traffic signal at Eglinton subway station have been initiated, a wholehearted endorsement of transit priority measures by Metro has not yet been made.

In summary, implementation of transit priority measures appears to be a major opportunity for the TTC to provide increased levels of capacity cost-effectively over the next decade, and a detailed assessment of candidate priority applications should be conducted.

Influencing Transit Demand in the Peak Period

Persuading riders to shift their travel times from the peak hours offers considerable potential to increase the utilization of peak period capacity at minimal promotional expense, and may allow cost savings through deferment of peak period capacity increases or actual reductions in existing peak period capacity.

The implementation of peak/off-peak fare differentials to provide a financial incentive to shift travel times was recently considered, though not recommended. In order to retain the TTC's established revenue/cost target, lowering off-peak fares would necessitate raising peak fares in order to offset lost revenue. While reducing off-peak fares would attract ridership, the actual shift from the peak to off-peak would not be substantial, principally because the riding public are often unable to significantly change their departure times due to fixed work hours. The fare differential could, in fact, prove to be more confusing than helpful - generating frequent fare disputes especially during the transition time from peak to off-peak. In addition, higher peak fares would drive some riders back to their cars, contributing further to road congestion.

A less disruptive and more effective method of persuading people to shift their travel times is that of encouraging Metro's business community to consider adopting or increasing the use of variable work hours.

To this end, the TTC's Marketing and Community Relations Department is presently conducting an extensive media campaign promoting variable work hours and their benefits. Because of the potential cost savings to the Commission and the minimal expense incurred, this promotion should be maintained as long as there are measurable positive shifts in work habits affecting the transit system.

Technological and Operational Innovations

The Communications and Information System (CIS) currently being implemented in the surface fleet at the Wilson Division offers opportunities to significantly improve

data collection, scheduling and headway adherence enabling the TTC to more effectively and efficiently accommodate ridership.

The RUCUS computer program is being used for run cutting and scheduling to allow for the most efficient deployment possible of manpower and vehicles. Before RUCUS was available, this work was all done manually and interlining (e.g., operating a bus in the heavy direction on one route and then swinging it over to operate in the heavy direction on an intersecting route rather than completing the return cycle virtually empty on the original route) was virtually impossible because of the complications involved. While the TTC still does not interline, except in isolated cases, RUCUS now provides the capability to interline routes and achieve potential savings. Interlining may cause some operational concerns but the possibilities should be discussed with the unions and the costs and benefits quantified for assessment by senior management.

Honour fare systems, as used extensively in Europe, should also be given further consideration with respect to revenues, costs, the potential savings in manpower and improved service. For example, an honour fare system allowing riders to enter both the rear and middle doors of an articulated bus may provide for the most efficient use of the additional vehicle capacity.

Other technological innovations such as the Computerized Train Dispatch and Information System (CTDIS), magnetically encoded ticket and pass fare collection systems, and improved passenger information systems have been or are now being actively pursued.

Many of the innovations noted above are currently being implemented, tested or studied as a result of their potential to reduce costs or improve service. The application of an honour fare system and interlining should also be carefully evaluated.

Moving into the 1980's, management should foster an attitude of innovative thinking in all aspects of TTC operations so that all employees will be encouraged to look for more productive methods to run the system.

In summary, productivity is recommended as the central TTC corporate theme for the 1980's. All TTC departments should pursue both conventional and innovative productivity measures, be they operational, technological or administrative. On-going monitoring, review and analysis of potential measures should become an established responsibility. To some extent, this process has been established, largely as a result of the 1979 "New Direction" program, which established a basis for (often inter-departmental) task team development of test programs and eventual permanent implementation of major TTC innovations such as Metropass and express services. This approach should be emphasized and expanded over the coming decade.

5.1.2 Recommendations

1. The TTC should adopt "increased productivity" as its major strategic theme for the 1980's, projected as the most viable means of meeting the objective of accommodating and encouraging ridership growth in light of potential financial contraints.

2. The TTC should develop productivity and performance goals and measures to be used for both budgetting and planning purposes.

3. The TTC should more actively advocate an accelerated program of transit priority measures, such as exclusive lanes and pre-emptive signals.

4. The testing and implementation of technological and operating innovations which increase productivity should be accelerated, with emphasis on those which can simultaneously improve cost-effectiveness and service. Options for consideration would include:

   - System-wide implementation of CIS
   - Articulated vehicles
   - Advanced fare collection systems
   - Enhanced management information systems
   - Improved passenger information systems
   - Variable work hours and other demand management strategies
   - Departmental productivity improvement committees
   - Application of more modern technology in offices, shops and other facilities.

5.2 Social Objectives/Transportation Objectives

The distinction between transit's social role and its purpose as a means of transportation is an important one to understand due to the fact that funding for transit arises from two different sources - the public and the users. The transportation objectives are the most obvious and constitute the major portion of the "user's fair share" funding formula. The social role of transit, which includes providing service to specific groups of travellers (e.g. senior citizens) as

well as meeting other objectives designed to benefit the community as a whole (e.g. economic development or land use objectives) is funded through government subsidy rather than by the transit users directly.

Over the past decade the social role of transit has received increasing emphasis. That emphasis is expected to continue and, in fact, to increase as the structure of Metro's population changes and various interest groups become more articulate and better organized. As Metro's population ages, further demands for service oriented to the (largely off-peak) travel needs of senior citizens will be forthcoming. More generally, there will possibly be increasing political pressure to reduce the user cost of transit, largely for the benefit of the transit dependent ridership group. While transportation and social goals are not necessarily mutually exclusive, an increased social role implies either increasing costs or decreasing revenues, or both, leading to a substantial increase in future subsidy requirements.

The establishment of the "user's fair share" concept in 1977, with agreement to a stable revenue/cost ratio for fares (originally 70%, now 68%), in essence determined the relative proportion of "transportation" and "social" service provided by transit. Although the actual revenue/cost ratio established is somewhat arbitrary, the concept has worked well, allowing the TTC to conduct its service planning in a stable financial environment. In concert with the "user's fair share" formula, identified social needs have been met with special, earmarked subsidies from other budgets. These include Metro subsidies to provide concession fares for senior citizens, war amputees and the blind, and the 100% subsidy provided by Metro and the Province for the Wheel-Trans service for the disabled. TTC

staff have recommended that the proposed Community Bus service be funded on a similar basis.

Since 1977, there have been numerous political proposals to reduce fares, and thus the revenue/cost ratio, in effect to increase the "social" component of transit service. The TTC has opposed and continues to oppose such a move, for a number of reasons. It is believed that social goals should be kept distinct from transportation requirements so that the cost implications of both policy and service initiatives can be accurately identified. This general policy can be met by continuation of the current policy of earmarked subsidies for "social" transit services, which confines the competition for subsidy dollars among social objectives, rather than between social and transportation objectives. Such a policy allows Metro to clearly identify its social objectives and to determine funding priorities and allows the TTC to meet the specified social objectives without jeopardizing the ability to perform its prime "transportation" function, accommodating ridership growth.

5.2.1 Service for the Travel Disadvantaged

Notwithstanding the foregoing comments, the TTC is currently involved in programs to improve service for persons who, for reasons of age, physical or mental disability, or socio-economic situation, can use the transit system only with difficulty. In 1979, the TTC established the Technical Advisory Committee on Improved Accessibility (TACIA) to develop a program to improve accessibility to the subway and surface system for the elderly and ambulatory handicapped. In discussion and review with 30 agencies representing elderly and handicapped groups in Metro, TACIA has recommended 17 projects for implementation, including additional

handholds on surface vehicles, redesigned and additional benches in subway stations, talk through communicators at subway collector booths, and coloured textured subway platform edge markers. Many improvements have already been implemented and further improvements will be made over the next several years.

The Community Bus Service concept proposed by the TTC is a service designed to meet the off-peak travel needs of certain transit ridership groups in the suburbs. It is expected that initially these services will not be self supporting (i.e. will not reach the 68% revenue/cost target) and the TTC has proposed special funding by the area municipalities served. However, as transit dependency in the suburbs increases, it is possible that these services can be incorporated in the regular service structure and the special subsidy eliminated. To some extent, Community Bus Service can function as an interim service, requiring special funding, to meet the immediate needs to suburban riders. This proposal is currently on hold awaiting an improved economic climate.

5.2.2 Transportation for the Disabled

The TTC, along with other Canadian transit operators has firmly endorsed the concept of a parallel service to meet the transportation needs of the disabled, rather than embarking on a major program of modification of the existing transit system to provide full or partial accessibility. This position is based on both cost considerations (capital costs of partial accessibility are estimated at $35 million, while full accessibility would cost over $200 million) and the ability to provide a superior level of service through a parallel operation. Nevertheless, the TACIA program does

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improve accessibility for those elderly and disabled persons capable of using transit but with some physical difficulty.

Wheel-Trans round trips are expected to double from the current level of about 800 trips per day by the end of the decade. While this represents a significant increase, it is probably still below full potential usage which is constrained by the current rate of program expansion that can be achieved under current transportation funding policy. Means of more rapidly increasing the capability of the program are under consideration. The possibility of using more taxis has been recommended in this regard, subject to changes in Provincial policy.

There is also considerable concern over the quality of the contract Wheel-Trans parallel service. The Commission has recently recommended that the TTC take over the reservations, scheduling and dispatching functions in order to help improve this element of the service, and that staff conduct a detailed analysis of methods to improve demand-responsive service at off-peak times.

The option of complete take-over of the Wheel-Trans service by the TTC was not recommended, primarily due to the approximately 50% increase in costs that would be incurred. However, should the TTC be requested to assume all aspects of Wheel-Trans service, the impacts, aside from costs, are expected to be minimal, assuming that all incremental operating and capital costs are fully subsidized.

In summary, no major changes in current policy or operation, beyond programmed directions noted above, are anticipated. The growth in the Wheel-Trans parallel service coupled with improvements in general accessibility, appear to represent a publicly and politically acceptable policy for

meeting the transportation needs of the disabled and elderly over the next decade. The policy of providing special subsidies for these services minimizes the direct financial impact on the TTC, although the proportion of costs assumed by the Province and Metro may require review.

5.2.3 Recommendations

1. Funding of "social" transit services should be provided through earmarked subsidies from other than the transportation budget, for example, from social services.

2. The current TACIA program to improve accessibility to the system for those experiencing difficulty in use should be continued.

3. The TTC should promote the Community Bus Service concept with Metro and the area municipalities as necessary to meet the changing travel needs of suburban residents.

4. Maintain the current operation of the Wheel-Trans service by outside contractors, with reservations, scheduling and dispatching functions assumed by the TTC with the recognition that total TTC operation may be required in the future.

5.3 Rapid Transit

One of the most important issues facing the TTC over the next decade and beyond will be the development and expansion of the existing rapid transit system. The decisions taken in this area will have major financial, organizational, and social impacts.

When the decision to build the Yonge Subway was made in the late 1940's, rapid transit was a relatively straightforward proposition: streetcar lines were converted to subway, solely on the basis of obvious capacity requirements. Since then, rapid transit decisions have come to encompass a host of inter-related issues, including land use impacts and economic development objectives as well as capacity needs. Rapid transit decisions have become more complex and more controversial.

A number of rapid transit plans for the Metropolitan Toronto area have been prepared over the years, including two "concept plans" put forward by the TTC in 1969 and 1973. The current Official Plan for Metropolitan Toronto does not include a rapid transit network, but points out the need for further study on this issue. The joint Metro/TTC Rapid Transit Study released in 1982 addressed some of the issues, and the Ontario Cabinet's "long range transit strategy for Metro and surrounding areas", announced in October 1982, pointed out some of the regional questions. As the carrier of over 80% of all transit riders in the Golden Horseshoe, the Toronto Transit Commission is vitally interested in any proposals in this area. The updated "conceptual plan" in this section is a statement of the TTC's position on the subject.

5.3.1 The Issues in Rapid Transit

A number of critical issues and trade-offs are involved in the rapid transit decisions as related to TTC priorities; these are as follows:

1. Operational requirements;
2. Land use objectives;
3. Economic development objectives;

4. Technology choice;
5. Organization for construction and operation;
6. Financing.

Each of these issues is considered individually below, followed by an analysis of the trade-offs involved.

Operational Requirements

The TTC's basic objective is to transport its riders where they wish to go with reasonable comfort, convenience, and reliability. That is the business of transit, and for the TTC, its riders must always come first. The success of the TTC has been based on this principle.

Part of the subway system is currently at or close to capacity during peak travel periods, specifically the Yonge/Bloor interchange and the Yonge Subway south of Bloor Street. Analysis conducted by Metro and the TTC has shown that by 1991, the travel demand in the above location, i.e., the number of people who must travel by transit, will be 3,000 to 8,000 riders per hour greater than the capacity of the current rapid transit facilities into the downtown. It is anticipated that the growth will continue beyond 1991, and that the above shortfall will increase as Central Area employment increases.

The major uncertainty in the Central Area is the timing of this future employment growth. However, there seems no doubt that a rapid transit "relief line" into the downtown will be required at some point, even with rapid development of the Metropolitan subcentres in the area municipalities.

In theory, it would be possible to meet a substantial portion of the demand using surface transit. However, the speed and comfort would not be up to rapid transit standards, and surface transit, even with transit priorities on the road system, must be viewed as a stop-gap solution.

From the perspective of the TTC's operational requirements, the rapid transit priorities are thus as follows:

1. Implementation of an interim surface transit plan for the downtown area, with transit priorities.

2. Initiation of a detailed feasibility study of a downtown relief line.

3. Development of the longer term rapid transit network with continued full integration of surface and rapid transit services in all future projects.

Land Use Objectives

The essence of the Metropolitan Official Plan land use objectives is expressed in the following statement in the Plan (p. 15):

1. **A fundamental aim of the Plan is to create a multi-centered urban structure. This can be achieved through the development of Metropolitan Centres located along rapid transit facilities.**

The TTC endorses the above objective, and all of its land use implications as expressed in the Official Plan. A multi-centered land use form will lead to more efficient

travel patterns, a more diversified Central Area, and a generally more attractive urban area. However, as pointed out in the terms of reference of the Metro/TTC Rapid Transit Study, the Official Plan does not really address the rapid transit issue. The Plan states the following (p. 16):

> **The construction of future rapid transit facilities to improve general mobility and support the centres shall be determined as a result of monitoring growth and change in travel patterns.**

It would now appear desirable to take the initiative on an east/west rapid transit line to support the Metropolitan Centres. The line would also act as a TTC distributor line for the increasing transit demand from the Regional Municipalities outside Metropolitan Toronto.

Economic Development Objectives

In recent years, Provincial economic development objectives have influenced rapid transit discussions and decisions in Metro. The two specific examples are the selection of the Intermediate Capacity Transit System (ICTS) technology for the Scarborough Rapid Transit Line, and the proposed Waterfront ICTS facility. Two separate issues have emerged from these projects: The TTC role in design and operation of new rapid transit facilities, and the competition for capital and operating funds between "economic development" transit projects and "transportation" transit projects (i.e. those necessary for the TTC to achieve its objective of accommodating ridership growth).

Regarding design of new rapid transit facilities (broadly defined to include corridor and alignment selection, structural design, system specifications, vehicle design,

construction, commissioning and revenue operation), it is recognized that the Province has valid objectives (such as development and demonstration of new technologies for export markets) that should receive the full support of the TTC. However, these objectives should not be achieved at the expense of transit system integrity in Metropolitan Toronto.

Technology Choice

A further question raised by possible future rapid transit decisions is the choice of technology. The decision to utilize the ICTS technology on the Scarborough rapid transit line has introduced a new transit mode in Metro. As yet, ICTS is unproved in revenue service, and future modifications may be required to ensure efficient operation. The question arises as to the impact of a commitment to ICTS technology on future rapid transit decisions.

Initial indications are that ICTS, though able to provide a quality service, has a relatively high capital cost. Furthermore, it requires full grade separation, similar to the existing subway system, which may not be required for potential suburban rapid transit applications. ICTS may not be the appropriate technology choice for all future rapid transit facilities in Metro, just as it is unreasonable to expect that subways or buses alone could meet all of Metro's future transit needs. The key to cost-effectiveness will be the choice of an appropriate technology to meet the needs of a specific application, while considering the need for system integration.

It is recommended that the TTC, as the agency responsible for rapid transit operation, be responsible for the choice of technology for future rapid transit, each application to be reviewed on a specific needs basis. The

current commitment to ICTS technology for Scarborough should not define a future commitment to ICTS for all future rapid transit facilities.

Organization

There are major organizational issues involved in the construction and operation of rapid transit within Metropolitan Toronto over the next two decades. The TTC's position on this topic is very simple: the TTC should be responsible for the design, construction, and operation of all such lines, as it has been over the past three decades.

A large part of the TTC's worldwide reputation for operating excellence is the result of the integration of design and operations. TTC design teams have always included operating staff, and the knowledge that they would have to live with the results has led to such concepts as the "free body transfer" in most TTC rapid transit stations, and a high priority for the integration of surface transit services with the subway. Experience in other cities with independent design teams suggest that the integrated TTC approach, based on operating experience, leads to a superior design.

TTC supervision of construction, based on past experience in Metro, is highly desirable, though not essential. Responsibility for design is essential.

Transit services within Metropolitan Toronto should be integrated, and the TTC should continue to operate them. Inter-regional commuter rail services, i.e. over regional boundaries, should of course continue to be operated by the Toronto Area Transit Operating Authority.

Financing

Preliminary analysis carried out as part of the Metro/TTC Rapid Transit Study indicates that the Metropolitan Corporation can afford to continue on a program of rapid transit construction through the year 2000 under the current subsidy policy of 75% Provincial contribution and 25% Metropolitan contribution. Financial constraints could limit the pace of construction, but Metro has the financial base to support a net expenditure of $30 to $40 million (1983 dollars) on rapid transit, which is substantially less in real terms than the peak expenditure rates of the mid-1960's. Based on the 75% Provincial contribution, this translates into an annual gross expenditure rate of $120-$160 million (1983 dollars) in capital construction.

Operating costs must also be considered, and require further detailed analysis. Special operating subsidies were made available for the Scarborough RT and the Spadina Subway, and such subsidies should be made available for new lines in the future, especially those which are built to meet objectives other than accommodating ridership growth.

The Ontario government has also provided special capital subsidies in cases where extra capital expenditures have been involved to meet economic development objectives. In the case of the Scarborough RT, 100% of the costs of changing from LRT to ICTS technology were funded by the Province. For the proposed Waterfront line, 90% of at least part of the funding was to be provided by the Province, and the source was to be the BILD economic development budget. The TTC supports this policy, since it ensures that non-transportation objectives are not pursued at the expense of the direct needs of the transit riders.

Trade-Offs

No rapid transit system can meet all objectives, and obviously some choices must be made. The TTC's positions on the rapid transit choices are as follows, based on past experience:

1. The needs of the TTC's riders, as translated into operational requirements, must be accommodated as a first priority.

2. Any line which is justified by non-transportation objectives should also proceed but only after assurances have been received that the needs of current riders, and projected growth will be provided for.

3. In the choice of technology, cost-effectiveness and the needs of the riders should receive first priority.

5.3.2 A Long Term System Concept

The conceptual plan presented in Exhibit 12 is similar in intent to the TTC plans prepared in 1969 and 1973. It is intended to provide the TTC's concept of how a fully integrated commuter rail/rapid transit system should be developed in Metropolitan Toronto and surrounding areas in the future. It is stressed that the various alignments are schematic only. They have not been subjected to detailed studies at this stage. Nevertheless, the proposed circumferential/grid system, providing Metro-wide rapid transit accessibility, is a long term TTC objective requiring approval in principle so that future decisions regarding construction and integration of rapid transit, surface

transit and commuter facilities can be made in the context of a long term system plan.

Major features of the conceptual plan include:

The Basic TTC System

East-West Line North of Highway 401: The initial phase of this line as proposed in the recent Rapid Transit Study connects the North York and Scarborough Town Centres with a link along the Sheppard Avenue right-of-way. Initial preferences for the westerly extension of this line (as expressed by area municipal staff) are for a more northerly corridor in the vicinity of Finch Avenue.

In October of this year, the Province announced a long range commuter rail strategy with a joint use east-west TTC/GO Transit corridor in Metro north of Highway 401. Specific route location will be the subject of a joint provincial/municipal study to be carried out over an 18-month period. While preliminary assessment suggests that the Finch Hydro corridor may be a more environmentally acceptable corridor for a joint use facility, various options, including the Sheppard Avenue route recommended in the ART Study, will be included in the detailed assessment. The TTC's preference will be whichever route best serves the needs of Metro and its residents. West of Highway 400, the route shown in Exhibit 12 follows the Hydro corridor in a southwesterly direction. Other alignment options, including a possible routing due west into northern Etobicoke to perhaps Highway 27 should be subject to further feasibility analysis.

Scarborough RT Extension: In order to complete the easterly side of the circumferential line, the Scarborough RT

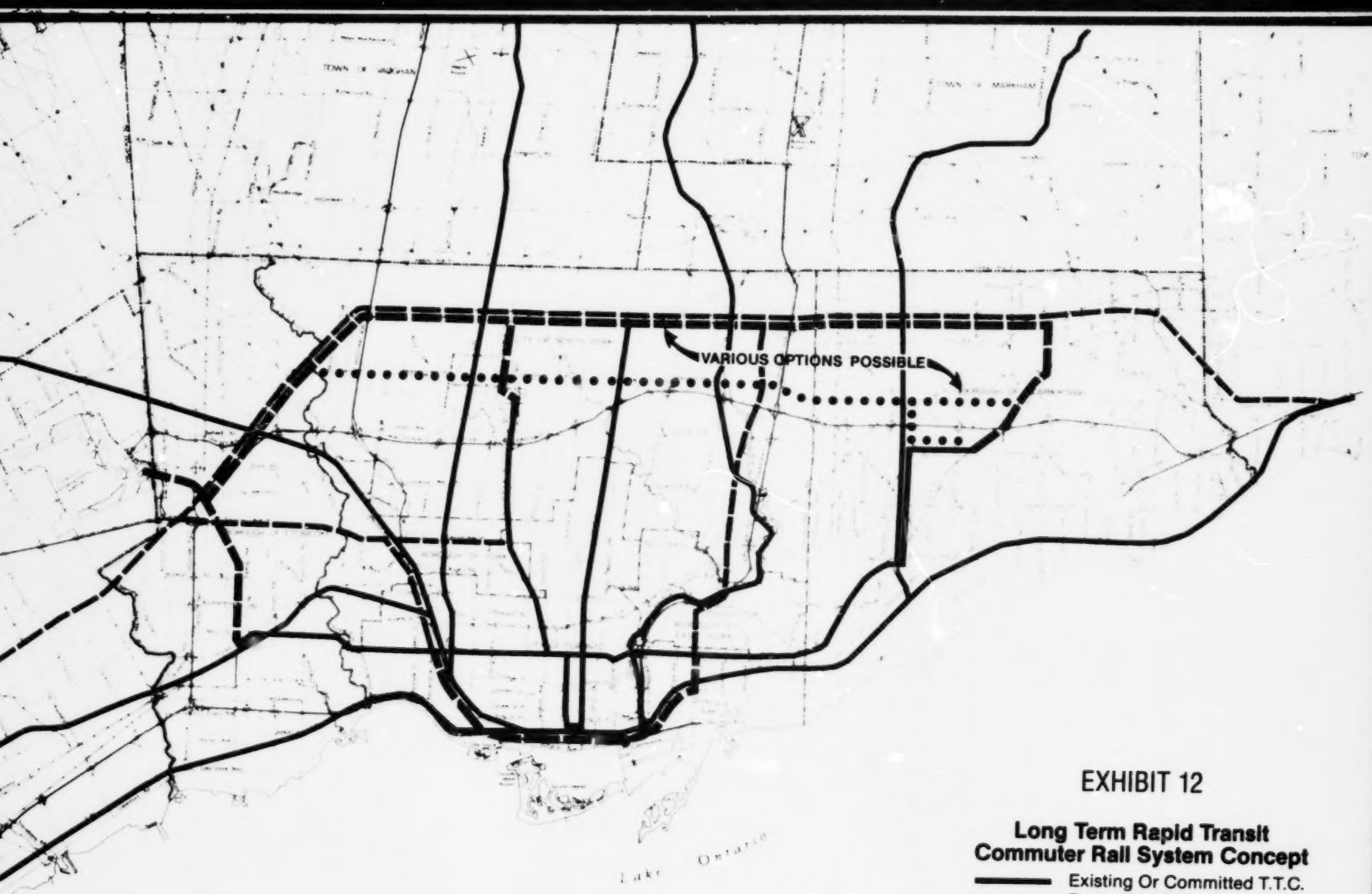

EXHIBIT 12

Long Term Rapid Transit Commuter Rail System Concept

- Existing Or Committed T.T.C.
- Proposed T.T.C.
- Lines for Future Consideration
- Existing GO Transit
- Proposed GO Transit

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facility could be extended northerly along the Malvern Transportation Corridor (as designated in the Metro Official Plan) to connect with the east-west line along the Finch Hydro corridor.

Spadina Subway Extension: The Spadina Subway could be extended north to link with the proposed east-west portion of the circumferential line.

Downtown Loop: The high priority downtown relief line between the Danforth Subway and Union Station and its extension to serve the Waterfront development between the CNE and Union Station would be continued west and north to make a westerly connection with the Bloor Subway, possibly at Dundas West Station.

Northerly Link from Kipling Station: The circumferential loop in the west would be completed by a line going north from Kipling Station along the Hydro right-of-way and connecting with GO Transit and the westerly extension of the east-west line, somewhere in the vicinity of Highway 401 and Highway 427.

Airport Link: With the construction of a third terminal at the Toronto International Airport, this line would be a TTC link from both the proposed GO Transit service and the TTC circumferential line to an internal airport people mover system.

Possible Additional TTC Links

In addition to the facilities proposed in this concept plan, there are a number of lines which warrant future study. These include:

Eglinton/Weston: This line east along the Eglinton Transportation Corridor (as designated in the Metro Official Plan) and south along the railway right-of-way to connect with the west terminus of the Downtown Loop could be provided as an alternative to or in addition to the Kipling north link. While it would be more expensive than the Kipling link, it would provide service to the York Civic Centre and, if constructed as a continuous line and with the same technology as the Downtown Loop, would lead to fewer modal transfers and less pressure on the Bloor line. An additional option would be the extension of the Eglinton portion of the line further east to connect with the Spadina Subway.

Don Mills: The eastern Downtown Relief line could eventually be extended north across the Don Valley and up the Don Mills corridor to relieve pressure on both the Yonge Subway and the Don Valley Parkway and to serve the high density residential and commercial nodes within the corridor. Since the nearby Richmond Hill commuter line will be picking up the majority of its passengers within Metro in the future, the alternative of new or augmented service along this line might also be considered.

Commuter Rail - GO Transit System

In addition to the existing Lakeshore East and West, Georgetown, Milton and Richmond Hill commuter rail lines, GO Transit has recently acquired two VIA services providing service to Union Station from Bradford and Stouffville.

As a result of a recent study, the Province has also announced a long range inter-regional rapid transit strategy which includes:

- Advanced Light Rapid Transit (ALRT) extensions of GO Transit Lakeshore services east from Pickering to Oshawa and west from Oakville to Hamilton as a first stage;

- A joint use east-west rapid transit line north of Highway 401 within Metro which would serve both inter-regional and local municipal needs with connections to Durham in the east and the Mississauga City Centre and the Lakeshore Transit System in the west; and,

- An investigation into the potential opportunities for preserving an exclusive right-of-way in the Lakeshore corridor from Oakville to Pickering for the possible eventual construction of an electrified system.

The announcement verified that all existing GO rail lines would be retained as part of the entire GO system.

The existing GO rail system is oriented almost exclusively to the Central Area via Union Station. It is essential that the GO Transit commuter system as existing and proposed be fully integrated with the future TTC system such that many of the longer distance, higher speed trips into Metro on the GO system are intercepted at major interchange points with the TTC circumferential line, and then distributed throughout the system via TTC local services.

The TTC supports the above proposal, with the qualification that the portion of the east/west line within Metro should be built and operated by the TTC, with provision

being made for use by the long-distance GO vehicles on the shared trackage as appropriate.

5.3.3 Recommendations

1. In all instances, the needs of the TTC's riders should receive priority over other objectives.

2. From the perspective of the TTC's operational requirements, the first rapid transit priority is a downtown "relief line" as recommended in the recent Metro/TTC Rapid Transit Study. Consequently, this line should be given early approval by Metro and the area municipalities and a detailed feasibility study initiated.

3. An east-west rapid transit line to support the multi-centered urban structure outlined in the Metropolitan Official Plan should be pursued.

4. The TTC, as the agency responsible for rapid transit operation, should be responsible for the choice of technology for future rapid transit applications.

5. The TTC will be responsible for the design, construction and operation of all rapid transit facilities in Metro Toronto, with exception of inter-regional commuter rail lines.

6. Special capital and operating subsidies should be provided for rapid transit facilities designed to meet objectives other than accommodating ridership growth.

7. The conceptual long range rapid transit plan presented in this report should receive approval in principle in order to provide a systems context for future decisions

regarding construction and integration of rapid transit, surface transit and commuter facilities.

8. The TTC supports the recent Provincial long range commuter rail proposal with the qualification that the portion of the east-west line within Metro should be built and operated by the TTC, with provision being made for use by the long distance GO vehicles on the shared trackage as appropriate.

5.4 Integration and Co-ordination of Inter-Regional Travel

5.4.1 Growth in Inter-Regional Travel

The growth in municipal transit ridership across the Metro boundary has almost doubled in the six years from 1975 to 1981. This ridership is expected to more than double again by 1991 with the major growth taking place across the westerly and northerly boundaries.

The TTC now operates 6 routes into Mississauga, Vaughan and Markham under contract and Markham and Mississauga operate another 11 routes into Metro. In addition, Markham and Vaughan provide several transit connections with TTC services at the Metro boundary. Transit routes crossing the Metro boundary are shown in Exhibit 13.

As an indication of the growing interdependence between the TTC and surrounding municipal transit services, especially in the west, it should be noted that Mississauga runs almost one-third (8) of its 25 transit routes into the TTC's Islington subway terminal.

GO Transit ridership has also increased significantly, growing from 12 million annual rides in 1975 to 22

million annual rides for the 1981-1982 fiscal year. Projections for 1991 have ranged from a consultant's conservative 1978 estimate of 22% growth to a more recent MTC estimate of 80% growth to 40 million annual rides.

GO Transit presently operates 9 commuter bus services and 7 commuter rail services into Metropolitan Toronto, including two additional rail services (Bradford and Stouffville/Uxbridge) in late 1982 as a transfer of responsibilities from VIA Rail.

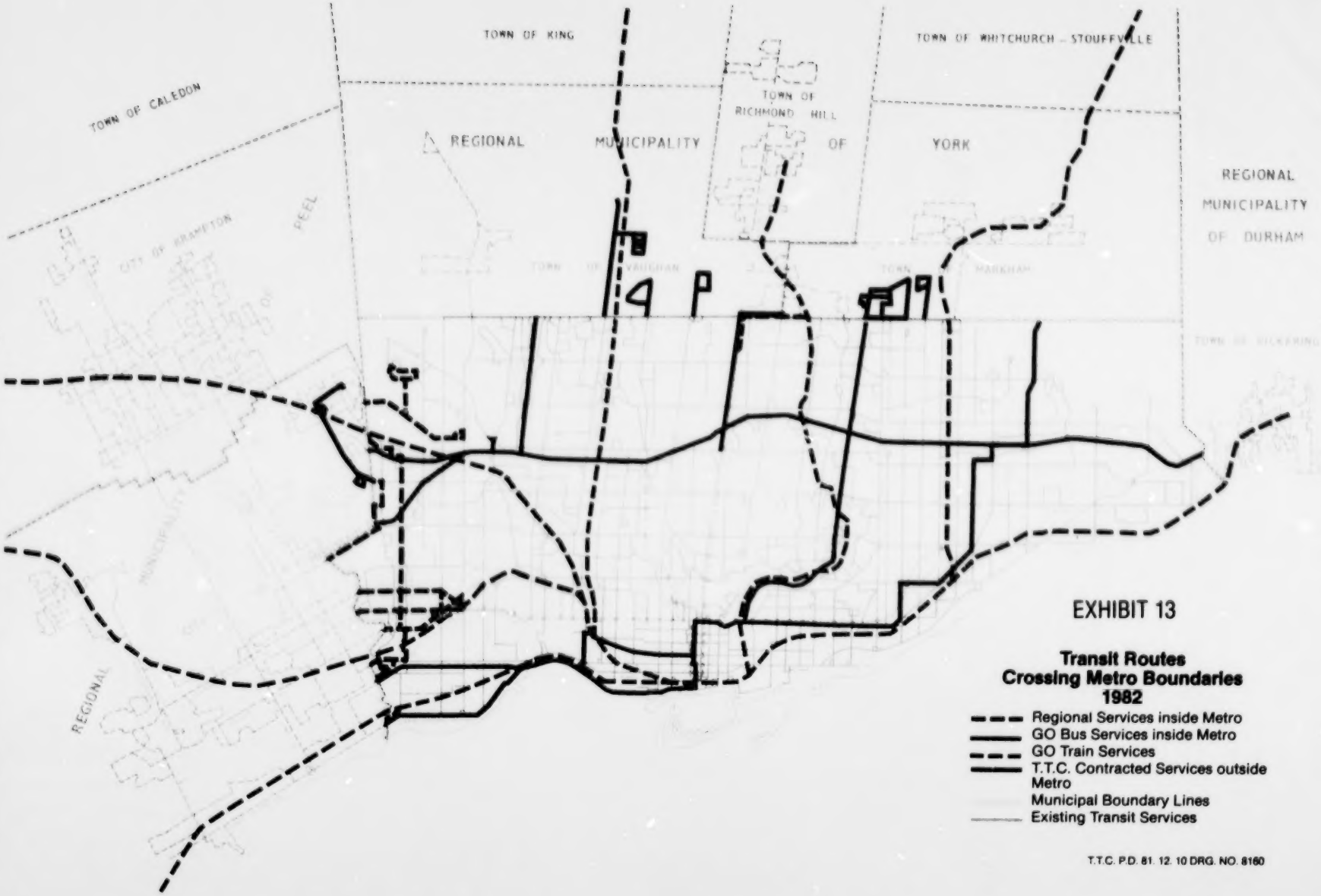
Trips by non-Metro residents now account for an estimated 8% of total TTC daily ridership. With expected growth in jobs in Metro and continued development in the surrounding municipalities, a large percentage of the growth in TTC ridership over the next 10 years is expected to originate from outside Metro. The result could be as many as 40 to 50 million annual rides by non-Metro residents. As an initial step in understanding the problem, the TTC has initiated a cross-boundary commuter research study to identify the attitudes and needs of non-Metro commuters.

As the number of non-Metro TTC users increases and as the availability of transit financing becomes more restricted, the efficient and effective interface and resolution of problems between the TTC and both area municipal and GO Transit services will become a critical issue.

5.4.2 Problems and Opportunities

Service Duplication

At the present time, the Toronto Transit Commission is the sole authority for providing local public transit


TOWN OF KING
TOWN OF WHITCHURCH - STOUFFVILLE
TOWN OF CALEDON
TOWN OF RICHMOND HILL
REGIONAL MUNICIPALITY OF YORK
REGIONAL MUNICIPALITY OF DURHAM
CITY OF BRAMPTON
PEEL
REGIONAL
EXHIBIT 13
Transit Routes
Crossing Metro Boundaries
1982
Regional Services inside Metro
GO Bus Services inside Metro
GO Train Services
T.T.C. Contracted Services outside Metro
Municipal Boundary Lines
Existing Transit Services
T.T.C. P.D. 81. 12. 10 DRG. NO. 8160

services within Metropolitan Toronto. Transit services provided by adjacent area municipalities can and do operate within Metro for the purposes of dropping off and picking up their passengers at TTC subway terminals in the west and the north but are expressly prohibited from providing any local transit service within the bounds of Metro. As a result, there are, at times, both TTC and adjacent municipal transit vehicles operating along the same routes within Metro with only TTC vehicles able to pick up and drop off passengers. As the number of these cross-boundary services and passenger volumes continue to grow, there will be increasing pressure to rationalize some of these services to save on overall costs, with service provided by a single agency.

Improved Cross-Roundary Rider Convenience

Not only is there the potential to save on overall costs of transportation through the rationalization of some duplicate cross-boundary routes but, increasingly, there will be pressure for services with major origins on one side of the Metro boundary and major destinations on the other to be operated by only one agency so that passengers are not inconvenienced by a forced transfer at a political boundary.

Also, for the purpose of cross-boundary passenger convenience, there will be growing requests for fare integration with both GO Transit and the adjacent municipal transit services. GO Transit has already initiated integrated fare schemes with some area municipalities and has had discussions with the TTC staff regarding the possibility of using an integrated TTC-GO Transit monthly pass.

Planning and Operational Co-ordination

When cross-boundary issues have come up in the past, they have generally been dealt with on a piecemeal,

project specific basis through bilateral discussions between the parties directly involved. Little or no attempt has been made to discuss and develop an overall policy which would take into consideration the interests of all those who might be affected either now or in the future.

As more requests are received for the TTC to extend services outside the Metro boundary (as it is already doing in Markham, Vaughan, and Mississauga) and as the frequency and number of external services interfacing with TTC routes grows, it will become increasingly apparent that the Metro boundary is not a physical boundary, limiting the extent of transit networks, but merely an institutional boundary which determines financial responsibility.

More inter-regional planning and liaison between the TTC and surrounding municipalities and transit agencies is required to insure that the most cost-effective transportation decisions are made by all parties.

Prior to its recent announcement of a long term commuter strategy, the Ontario Government had been studying the electrification of the GO Transit Lakeshore line, which could substantially increase capacity and possibly introduce a number of new stops in Metro. While considerable study was carried out, minimal discussion was held with the TTC on this issue, yet decisions taken could significantly affect the requirements for additional surface and rapid transit services in Metro.

Similarly, the recent decision to have GO Transit take over VIA Rail's Uxbridge commuter line and provide a station at Agincourt could have a negative effect on patronage on the Scarborough RT line because of the proximity of the two lines and stations.

Estimates of the 1991 ridership on GO Transit's Richmond Hill line have indicated that more than 65% of the patronage on that line will be picked up in Metro. To all intents and purposes, this line will function as a Metro rapid transit line with an extension to Richmond Hill, rather than as a commuter rail line.

Integration and development of a joint use TTC/GO Transit rapid transit corridor, as recently announced by the Province, will have a major impact on the TTC system.

The essential ingredient that is missing for the proper resolution of all of these identified concerns is the establishment of the appropriate forum to ensure that these issues are discussed by all affected parties.

Financial Implications for Metro Taxpayers

As cross-boundary ridership grows, requiring additional surface and rapid transit services, the question of how to equitably share the financing of these services becomes extremely important. Some 34% of the patrons using the Islington subway station and 22% of those using the Finch subway station are from outside Metro. Under existing funding programs, only Metro taxpayers pay the municipal share of new rapid transit lines, commuter parking lots and operations which are provided, in large part, to meet the transit needs of the residents of adjacent municipalities.

5.4.3 Alternative Approaches

The need for the resolution of such cross-boundary issues as service duplication, terminal facilities, service and fare integration and co-ordinated planning will intensify as cross-boundary ridership grows and more cross-boundary

routes are added. A major issue for the TTC is whether to continue the present policy of closed door operation for all outside municipal transit operators within Metropolitan Toronto, dealing with specific cross-boundary issues on a bilateral basis as they arise, or to move toward a more multi-lateral approach to planning co-ordination and operational integration. There are several approaches which can be taken.

Service Rationalization and the TTC Monopoly

There has been a suggestion from the Ministry of Transportation and Communications that the TTC support a change in the Metropolitan Toronto Act to allow outside transit operators to provide service within Metro subject to the approval of the Metropolitan Toronto Council. The purpose of this change would be to facilitate rationalization of any cross-boundary route duplications, but the negative aspect of the amendment would be that the TTC would lose full control over the operation of portions of transit services being provided within Metro to the possible detriment of efficiency and co-ordination of these services.

The TTC monopoly on public transit services within Metro has ensured that there is no destructive competition between transit operators for a transit market which is most effectively and efficiently served when it is concentrated.

An amendment to the Metropolitan Toronto Act, as proposed, while providing the statutory framework for rationalization of inter-regional services, does not address the problem directly. Individual cross-boundary services would still require bilateral discussion and review as at present. Such an initiative would appear to be an inherently risky and complex solution to a relatively simple problem.

Without giving up the TTC monopoly on public transit service in Metro by amending the Metro Act, it would still be possible to allow an outside operator to provide some service in Metro for the sake of cross-boundary route rationalization wherever it was felt to be appropriate. This could be done by hiring the outside operator under contract (similar to Wheel-Trans) and having him provide whatever service was necessary.

Planning Co-ordination and Operational Integration

There are several mechanisms for achieving the desired co-ordination and integration of inter-regional services.

For instance, the role of GO Transit could be expanded so that it operated all inter-regional and cross-boundary services while the TTC and other municipal operators provided service within their own boundaries. Alternatively, a single "super agency" could provide all transit services in the Toronto region. While both options would no doubt result in better inter-regional integration of transit services, either option would result in Metro Toronto Council and other municipal councils having very little say in determining transit service levels and fares in their respective areas.

Another option would be to have all transit operators and agencies in the Toronto area develop a co-ordinating agency (generally known as a Transit Union in Europe), with representation from all affected organizations, to oversee and co-ordinate a fully integrated transit service in the surrounding area. The advantages of this type of arrangement are the maintenance of local autonomy and

sensitivity to local transit requirements with a formal mechanism in place for co-ordination of planning, operations, fare collection and revenue sharing.

While Transit Unions have worked well and have resulted in overall benefits wherever they have been implemented, the magnitude of the issues related to cross-boundary services in the Toronto area have not yet grown to the level which would require such a formal approach to the problem.

However, the need for planning co-ordination and service integration is recognized and some less formal organizational mechanism is required to achieve these objectives. It is recommended that the Commisson take immediate steps either unilaterally or through the Ministry of Transportation and Communications to initiate informal but regular meetings between MTC, GO Transit and transit operators from the surrounding municipal areas to discuss policy and operational issues of mutual concern and to lead the way to more formalized integration in the future. It is recognized that there is already a planning co-ordinating committee called the Toronto Area Liaison Committee sponsored by the Ministries of Transportation and Communications and Municipal Affairs and Housing, but this committee is operating from a much broader planning base not related specifically to transit.

5.4.4 Recommendations

1. The TTC approach the Ministry of Transportation and Communications, GO Transit and municipal transit operators in the surrounding regions regarding the establishment of an informal forum for discussion and resolution of inter-regional policy and operational issues.

2. As a longer term arrangement, a formal body such as the European "Transit Union", be formed for the purpose of co-ordination and integration of all inter-regional transit services in the Toronto area.

5.5 Human Resources

Currently, the TTC has a strong human resources base, with little difficulty in attracting and retaining employees, good union-management relations and a great deal of pride and loyalty at all levels. While the composition of the work force and nature of their demands are changing, this change is expected to be gradual and should not lead to a deterioration of labour relations or productivity.

As in most organizations, however, the TTC's labour force is its most important resource both in terms of costs and operational effectiveness and consequently represents an area which has both potentially important problems and opportunities. As an initial step, the TTC has initiated an Employee Climate Survey to determine the general opinions of the labour force, and to identify those concerns which require attention. The development of a comprehensive human resources strategy will be a pre-requisite if the Commission is to succeed in responding to the challenges of the 1980's. Such a strategy will have to deal with two major areas of concern:

1. Maintaining a stable internal environment to ensure that labour relations do not deteriorate, due to:

   - Failure to maintain earnings and job security;
   - Failure to meet the expectations and demands of both new and older employees;

- Potential conflict over cost reduction measures which may be necessary in the future; and,

- Loss of the Commission's strong "corporate culture", caused in part by an erosion of TTC autonomy.

2. Achievement of corporate goals, notably increasing productivity by more effective utilization of both labour and capital.

The concern of maintaining a stable internal environment must take first priority, since any deterioration of labour relations could affect the Commission's ability to provide an uninterrupted, quality service. This would obviously preclude the achievement of future corporate goals. However, strategies to address both issues will be similar.

The Commission's human resources strategy should thus build on existing strengths, yet be responsive to the changing internal and external environment, by including the following:

1. Reaffirming pride and loyalty throughout the organization by adopting more of a "Quality of Working Life" philosophy, which focusses on improving employee satisfaction as a means to maintain productivity and performance. This will involve the review of many aspects of current working conditions, a system of rewards for both loyalty and performance, and meaningful participation in the decision-making process.

If the TTC is to successfully realize its goals, management will have to enlist the co-operation of all its employees. The first step is to improve the two-way communication process and convince both management and labour that the Commission's goals are in everyone's best interests. A strong, efficient and growing operation will provide a better service to the community, facilitate autonomy for the TTC, and offer greater job security and potential rewards. Fostering an environment where labour and management are partners with common interests rather than adversaries will be the key to effective human resources management in the 1980's.

2. Developing programs to better utilize the individual and collective capabilities of the Commission's people. These programs would involve the adoption of a systematic and formalized approach to employee counselling and development, manpower training, management development, and succession. This will help ensure that the TTC has qualified staff for all critical positions, as well as foster job security and mobility within the Commission. Having an abundance of capable and motivated employees will have major long-term payoffs.

5.5.1 Recommendations

1. The TTC should assess ways of improving employee satisfaction and labour relations as a means to improve productivity and performance.

2. The TTC should adopt a systematic, formalized approach to employee counselling and development, manpower training, management development and succession.

5.6 Safety and Security

Crime and vandalism are not expected to be major problems at the TTC and no radical changes are likely to be required (e.g. no transit police). However, the situation is potentially volatile and the contributing conditions (unemployment, racial tension, etc.) will intensify if the current economic recession is prolonged.

Perhaps a greater problem than the actual growth in criminal incidents is the perception that the transit system is unsafe. Seniors, women and ethnic minorities feel particularly vulnerable and recent experience suggests that it may take only a few incidents with extensive media coverage to escalate their fears to the point where their transit riding is reduced, particularly in the off-peak.

Once the transit system is perceived to be unsafe, it can become a self-fulfilling prophecy as many "choice" riders, whose presence on the system helps create a safe environment, choose to ride transit less. Thus while the actual problem of criminal incidents is not expected to rise dramatically, there is still a potential risk to the TTC's image if crime is perceived to be a problem.

In addition, from the Operators' point of view, even a single incident of assault on a driver as a result of fare or other disputes is one assault too many. It will be up to management to look for ways to minimize any aspects of fare collection or other operating procedures which may lead to driver/passenger confrontation. It is also important that senior management be seen to provide strong support to operating personnel in any disputes involving enforcement of TTC policy.

5.6.1 Recommendations

In order to ensure continued patronage, particularly in the off-peak, the TTC should:

1. Maintain a high priority for transit safety and security throughout the Commission;

2. Undertake a more systematic collection and analysis of a broader range of information on both the nature of potential security problems, and the perceptions of TTC employees and riders regarding those problems. This would include development of a more comprehensive set of questions for future attitude surveys;

3. Maintain and improve programs which develop communications with and education of those groups who are most vulnerable or fearful, to assure them that the TTC is not only relatively safe, but responsive to their security needs;

4. Intensify efforts to improve initial and ongoing education of TTC employees in security-related matters such as crisis containment and race-relations;

5. Take steps to provide increased management support to uniformed and "visible" TTC employees who are required to enforce TTC operating policy.

5.7 Contingency Planning

5.7.1 Ridership Trends

The majority of recommended policies and actions developed in the Long Range Plan have been based on an

assumed "medium" ridership forecast. As noted in Section 4.0, the most probable ridership trend calls for about 450 million annual trips by 1991, a total growth of about 15% over 1981. The recent deceleration in the rate of ridership growth underscores the uncertainty inherent in forecasting and the need for contingency planning. Relatively small changes in the rate of ridership growth can, over a number of years, result in a substantial difference in the level of ridership and thus have significant implications for TTC policy.

The various reasons for shifts in ridership have been discussed in Section 4.0. Poor economic conditions with continuing high unemployment and a further erosion in real incomes would tend to restrict both transit and auto trip making. Alternatively, any change in factors which increase the relative attractiveness of the auto, such as declining real gas prices or lower automobile carrying costs due to lower interest rates, could effect a modal shift away from transit. Thus, on the low side, ridership could remain relatively constant, and in fact show a slight decline to about 385 million trips in 1991, approximately equal to the 1981 ridership level.

As a high estimate, ridership could increase to as much as 500 million annual trips. This higher ridership trend could result from future gasoline price increases, high employment growth as economic conditions improve and direct government policies to promote transit use and discourage auto travel. In either event, higher or lower ridership, the key issue will be the shift in strategy required to respond adequately to changing conditions.

In general, the major policy recommendations proposed are expected to apply under any of the ridership

growth scenarios. This is particularly true of those policies related to productivity. The TTC will undoubtedly face closer scrutiny of budget requirements in the future, regardless of the projected ridership. Reductions in real costs per vehicle-mile will be expected and should be pursued. In addition, many initiatives which increase productivity and thus cost-effectiveness often simultaneously provide additional capacity and improve service. Transit priority measures are a notable example.

The major implications of a low growth scenario include:

- Less urgency for capital expansion. While purchase of vehicles is not a major concern, committed costs such as additional bus garages and especially rapid transit are very important, since debt charges and operating costs associated with over-capitalization can be burdensome to both users (through higher fares) and taxpayers. In the Central Area, slow employment growth may well postpone the need for a rapid transit facility to the post-1991 period. However, the use of rapid transit to stimulate ridership and/or achieve land use objectives takes on greater importance in a low growth scenario.

- Susceptibility to unanticipated increases in operating costs is greater since there is less opportunity to spread overhead. The fare/service tradeoff becomes more important and the risk of a "downward spiral" in ridership increases if costs escalate and/or subsidy constraints are imposed.

- The TTC's corporate policy emphasis changes somewhat, from cost-effective accommodation of growth in demand

back to more aggressive programs of encouraging ridership.

The major implications of the high growth scenario include:

- Both operating and capital subsidy requirements will be significantly higher for the high growth scenario, generating even greater pressure to introduce productivity measures.

- Two additional bus garages after Malvern will be required by the end of the decade, the first as early as 1985. Early implementation of an east-west rapid transit line north of Highway 401 may delay or eliminate the need for a second garage.

- An additional 220 buses will be required over and above the medium scenario. However, the conventional approach of adding buses to the surface vehicle fleet will be progressively less effective as a strategy if demand remains strong and road congestion becomes a more severe problem. In the short or intermediate term, a major program of transit priority measures will likely provide the necessary capacity and competitive service levels. However, rapid transit expansion, particularly downtown, would be the only long-term solution.

Over the past several years, the TTC has experienced periods of declining ridership and dramatic ridership growth. In each case, programs were developed to meet the changing conditions, and it is expected that similar efforts would be made in the future:

- Short-term adjustments to ridership trends will continue to be made through the budgetary process. For example, personnel recruitment and vehicle acquisition will be based on one and two year ridership projections, and capital budgets will be adjusted accordingly.

- Marketing programs directed at increasing work trip ridership shifted to off-peak promotions as congestion increased. General ridership promotion can be emphasized to encourage ridership in all periods, if necessary.

- Service improvements initially designed to promote ridership are currently necessary to accommodate long-term ridership growth.

- Ridership forecasts will require continual review and updating, and most importantly, translation into short-term action.

5.7.2 Energy

As noted in Section 3.0, the cost of a broad TTC energy contingency program is high and does not appear to be warranted. Even the relatively simple expedient of retaining one year's retirement fleet will become difficult as garage space grows more limited. There appears to be little economically justifiable action which the TTC can take, acting individually, to prepare for a highly uncertain energy shortfall.

Notwithstanding the above, the TTC is currently involved in the second phase of the Metropolitan Toronto Area Transportation Energy Study. This study, conducted jointly

by TTC, Metro and MTC is scheduled to produce a draft contingency plan in early 1983. This plan will address overall transportation contingency requirements and will, one hopes, identify actions which the TTC might take as part of a co-ordinated contingency effort. Such recommendations, after review, could be incorporated in TTC planning efforts.

5.7.3 Recommendations

1. Continue the current program of updating 5-year ridership forecasts on an annual basis, to account for changes in factors affecting ridership.

2. Review the contingency plan actions developed by the Metropolitan Toronto Area Transportation Energy Study for possible inclusion in TTC planning efforts.

5.8 The Role of Management

Over the next decade, the TTC operating environment is expected to change substantially. While radical changes in external factors are not anticipated, the continuation of current trends will have a major impact on TTC operations. To some extent, this will be due to a growing complexity in the environment, requiring more and increasingly complex decisions. It is anticipated that the involvement of government agencies in the transit decision-making process, notably the Province and Metro, will continue and intensify. More and more, the TTC will be involved in what is essentially a political process, with competition for scarce resources. It can be expected that the TTC will be required to provide greater justification for transit initiatives where external support or approval is required. In addition, it is expected that capital and operating budgets will come under increasing scrutiny as costs rise.

The prime objective of the TTC in the 1980's should continue to be the accommodation and encouragement of ridership growth at an adequate level of service. The ability to achieve that objective will depend to a large part on the approach taken by TTC management in dealing with the constraints and opportunities of the next decade.

5.8.1 Maintaining Technical Expertise

A major reason for the acknowledged success of the TTC in the past has been the technical expertise of staff and management. The TTC has traditionally been viewed as one of the major transit experts in North America, but the continued and increasing involvement of other interests in the transit decision-making process brings more non-traditional factors into that process. Increasingly, the TTC will require more and better information and analytical capability to support proposed initiatives in a competitive environment. Emphasis must be given to maintaining and strengthening the technical expertise within the Commission to ensure that a strong, lucid argument can be made for transit requirements and, ultimately, for financial support.

A key first step relates to information gathering. While various surveys of external trends are conducted on both regular and irregular bases (primarily by Marketing and Community Relations and Planning), they are not well integrated. It is recommended that the information needs of the TTC be reviewed to identify both future information requirements and cost-effective means of meeting them. Secondly, adequate staff resources in specific areas of technical expertise will be required. Over the last decade, increasing numbers of skilled or specially educated staff have been hired to meet evolving requirements, notably in the

area of computer applications. That technical base must be maintained both by continued selective hiring and by training and development of current staff. Thirdly, staff must be provided with the tools necessary to do their jobs. Over the past few years, a number of computer hardware and software resources have been developed to assist in scheduling, ridership forecasting, financial analysis and maintenance management. CIS, basically an operations information, analysis and control tool, is a prime example of developing new and expanded capabilities. Further opportunities should be reviewed.

Finally, a key management consideration must be maintaining the technical integrity of TTC staff. In essence, this implies a need to free most staff from direct involvement in the political process. This is not to suggest that staff should be unaware of political concerns, but rather that technical evaluation and analysis be conducted independently before consideration by the Commission and, eventually, Metro Council. These are the proper forums for political debate, and attempts by staff to interpret political interests, either on their own initiative or through direction, can ultimately only erode the quality of the technical analyses on which the reputation of the TTC is based.

5.8.2 Advocacy

While it will be important to pursue productivity improvements and expand technical expertise over the next decade, these activities alone will not guarantee success for the TTC in meeting its objectives of accommodating and encouraging ridership growth. In a political environment, the TTC must be prepared to play the role of transit advocate. In a climate with increasing competitive demands

for public funds and, more simply, for political support, a passive or reactive stance by the TTC will likely lead to either a low priority for transit initiatives, or imposed solutions to transit problems with detrimental impacts on the TTC, or both.

An advocacy role by the TTC has many facets:

- continual reinforcement of the importance of public transit to the community, its citizens, its businesses and institutions;
- public information, to promote a safe image of the system and address environmental concerns;
- involvement in the land use and development process to ensure that the impacts on transit are fully addressed;
- general ridership promotion, with particular emphasis on shifting peak ridership to the off-peak in the short term;
- promotion of adequate performance measures acceptable to the TTC's financial partners;
- emphasis on the continued financial needs of transit, particularly for scarce subsidy dollars; and,
- lobbying for what may be politically unpopular transit improvements, such as transit priority measures.

An example of transit advocacy in a political forum is the recent TTC submission to the City of Toronto Planning Board regarding the transit impacts of the City's Central

Area Plan. Such efforts to identify and explain transit requirements to political decision-makers will be required in the future. In addition, TTC staff are involved in various task forces, inter-agency project teams, and standing committees, responsible for a variety of broad transportation issues. In these forums, where conflicting interests and requirements often force technical compromise, the TTC will have to ensure that the specific needs of transit are adequately considered and resolved.

In general, the intent of an advocacy role is to ensure that politicians, technical staff and the public are aware of transit needs, costs, benefits and impacts. Advocacy will build on the TTC's existing and future technical expertise and analytical capabilities to promote rational, though political, transportation decisions in Metro.

5.8.3 Recommendations

1. The TTC emphasize and develop its current technical expertise through rationalization and expansion of its information gathering and analysis capabilities, selective hiring and development of suitably qualified staff and acquisition of appropriate technical analysis tools.

2. The TTC develop its role as a transit advocate in dealing with political bodies, technical agencies and the public to ensure that the needs and benefits of transit are well understood before transit- related decisions are made.